



# **QUALIFICATION HANDBOOK**

## **SVQ in Construction Plant or Machinery Maintenance at SCQF Level 6**

***Qualification reference number: GN61 46***

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## **1. Introduction**

1.1 This qualification has been developed to seek to ensure that those that carry out plant and machinery maintenance in a construction setting meet minimum requirements of technical competence and health and safety.

1.2 These requirements have been specified in the National Occupational Standards (NOS) developed by the Sector Skills Council (SSC) Construction Skills in liaison with employers and industry/ sector representatives. This qualification is based upon those NOS and incorporates the Qualification Structure approved by SQA Accreditation.

1.3 Successful completion of this qualification will allow candidates to show they have sufficient knowledge, understanding and skills to demonstrate competence in relation to maintaining construction plant and machinery

1.4 This Handbook provides the information required to assist approved centres in delivering the qualification and preparing candidates for assessment. This includes some template forms that may be used / adapted by centres. Note that you are able to create your own, or use existing forms for this purpose. Alternatively, QFI makes its E-Portfolio system available to its approved centres.

This document should be read in conjunction with QFI's policies and the Centre Handbook.

## **2. Qualification objective(s)**

2.1 The qualification is suitable for apprentices / those already in employment that wish to develop their knowledge and skills for plant or machinery maintenance in the construction sector.

2.2 In order to do this, the qualification covers technical and health and safety standards, and supports roles relating to plant or machinery maintenance.

## **3. Progression**

3.1 This qualification is primarily designed to allow candidates to progress to employment in roles relating to plant or machinery maintenance in the construction sector. These roles may be in addition to other construction related roles. Successful completion of this qualification may therefore lead to additional employment opportunities relating to plant and machinery maintenance or supervision of such activities.

3.2 Candidates achieving this qualification may also wish to progress to higher level qualifications those aimed at supervisory/ management roles e.g.

- Level 4 Award in Management and Leadership
- Level 4 SVQ Diploma in Construction Site Supervision (Construction)
- Level 4 SVQ in Construction Site Management

3.3 Candidates may also choose to undertake qualifications in more generic subjects such as a health and safety in the workplace, e.g.

- Award in Health and Safety in a Construction Environment at SCQF level 4

## 4. Entry requirements

4.1 Candidates must be at least 18 years of age to be able to undertake this qualification.

4.2 Those that will be driving construction vehicles as part of their chosen pathway/ additional units must hold a full driving licence.

4.3 There are no other specific entry requirements, though the National Careers Service does recommend physical fitness.

4.4 Candidates taking this qualification must be made fully aware of what this entails. Centres must be satisfied that candidates have the experience and skills and will have sufficient assessment opportunities within their job role to provide evidence of competence for this qualification. Where this may not be the immediate case, candidates should check with their employer whether they are able to go out with departmental or immediate job role boundaries to gain the necessary assessment opportunities.

4.5 A sample induction checklist is included at Appendix 1.

## 5. Qualification structure

5.1 The structure for this qualification is set by the Sector Skills Council Construction Skills and approved by SQA Accreditation.

5.2 To achieve this qualification candidates must achieve:

- 7 mandatory units
- 3 optional units

### Mandatory Units

**All candidates must complete the following units:**

SSC code	Title of mandatory unit (must complete all seven units)	SCQF level	SCQF credits
COSVR209v2	Confirm work activities and resources for the work	6	18
COSVR210v3	Develop and maintain good working relationships	6	8
COSVR211v2	Confirm the occupational method of work	6	14
COSVR659v2	Operate plant machinery or machinery for non-operational activities	5	10

COSVR664v2	Diagnose faults in plant or machinery systems or components	6	24
COSVR670v2	Determine and complete service to maintain plant or machinery	6	19
COSVR671v2	Determine and advise on the viability of repair or replacement for returning plant or machinery to service	6	28

### Optional Units

All candidates must complete three of the following units:

SSC code	Title of optional unit (must complete three units)	SCQF level	SCQF credits
COSVR663v2	Inspect plant or machinery for operational serviceability	5	26
COSVR665v2	Install repair or modify construction resources by heating, welding, brazing, soldering and thermal cutting	5	30
COSVR666v2	Produce one-off components to restore or maintain the operational functions of plant or machinery	5	19
COSVR667v2	Install plant or machinery for operational activities	6	36
COSVR668v3	Carry out specific tests on plant or machinery to determine operational serviceability	6	24
COSVR669v2	Configure plant or machinery for specific operational activities	5	21
COSVR672v2	Hand over plant or machinery to the control of others	6	19
COSVR673v2	Provide technical information, advice and guidance to users of plant or machinery	6	19

All units are included in Appendix 2 of to this document.

## 6. Assessment

### 6.1 Roles and responsibilities

There are a number of people involved in the assessment process and the role of each needs to be clearly understood by each.

- Candidates – must familiarise themselves with the content of the units that they are taking and how these are to be assessed. They should co-operate with the assessment process, looking for opportunities to evidence the elements and gathering evidence where this arises. Candidates must take on board feedback from their assessor and work with their assessor to develop realistic plans for assessment. An Assessment Plan and Review template is included at Appendix 3.
- Assessors - must familiarise themselves with the content of the units that they are assessing and how these are to be assessed. They must assist candidates in identifying assessment opportunities, gathering, and presenting evidence.

Assessors must assess all elements and record these assessments. Templates for recording elements, and for unit achievement, are at Appendix 4. Assessors must feedback and work with candidates to identify any gaps and develop realistic plans for assessment. They must also work with the Internal Verifier and External Verifier to ensure a common standard of assessment.

- Internal Verifiers – sometimes known as Internal Quality Assurers (IQAs), their role is to ensure that the assessment process is appropriate, consistent, fair and transparent; that assessors receive on-going support and that they are assessing to a common standard; and that awards are valid, reliable and consistent. IVs must develop a strategy that includes standardisation activities such as reviewing samples of evidence from each assessor, and countersigning the decisions of unqualified assessors.
- External Verifiers - sometimes known as External Quality Assurers (EQAs), are appointed by QFI and are independent of the centre. Their role is to check that internal processes are in place to ensure robust, consistent assessment. This includes sampling assessment evidence.

## **6.2 SCQF level 6 descriptors**

The following are descriptions of what a candidate should be able to do or demonstrate at SCQF level 6. These are for guidance only – it is not expected that every point will be covered.

### **Knowledge and understanding**

Demonstrate and/or work with: An appreciation of the body of knowledge that constitutes a subject/discipline/sector; A range of knowledge, facts, theories, ideas, properties, materials, terminology, practices and techniques about, and associated with, a subject/discipline/sector; Relating the subject/discipline/sector to a range of practical and/or commonplace applications.

### **Applied knowledge, skills and understanding**

Apply knowledge, skills and understanding: In known, practical contexts; In using some of the basic, routine practices, techniques and/or materials associated with the subject/discipline/sector; In exercising these in routine contexts that may have non-routine elements; In planning how skills will be used to address set situations and/or problems and adapt these as necessary.

### **Generic cognitive skills**

Obtain, organise and use factual, theoretical and/or hypothetical information in problem solving; Make generalisations and predictions; Draw conclusions and suggest solutions.

### **Communication, ICT and numeracy skills**

Use a wide range of skills, for example: Produce and respond to detailed and relatively complex written and oral communication in both familiar and unfamiliar contexts; Select and use standard ICT applications to process, obtain and combine information; Use a wide range of numerical and graphical data in routine contexts which may have non-routine elements.

### **Autonomy, accountability and working with others**

Take responsibility for carrying out a range of activities where the overall goal is clear, under non-directive supervision; Exercise some supervisory responsibility for the work of others and lead established teams in the implementation of routine work within a defined and supervised structure; Manage limited resources within defined and supervised areas of work; Take account of roles and responsibilities related to the tasks being carried out and take a significant role in the evaluation of work and the improvement of practices and processes.

## **6.3 The assessment process**

Assessment for this qualification, and for individual units that comprise the qualification, must take place in accordance with '*Construction Skills Consolidated Assessment Strategy for Construction and the Built Environment: Craft, Supervisory, Technical, Managerial and Professional National Vocational Qualifications (NVQs) and Scottish Vocational Qualifications (SVQs)*' (published December 2016, approved by ACG February 2017).

This document translates the requirements of the assessment strategy and gives guidance to ensure that centres meet these.

Centres delivering the qualification must ensure that assessors and Internal Verifiers are aware of the assessment strategy and how to access this. External Verifiers may check this requirement during monitoring visits to centres.

Assessment involves the following key stages: planning; producing evidence; assessing evidence; recording. Each of these is considered in more detail below.

### **6.3.1. Planning**

The assessor must create an Assessment Plan with each candidate that he/ she will be assessing. The Assessment Plan will need to be reviewed as the candidate progresses through the units. A template for assessment planning and review is at Appendix 3 of this document.

A wide range of assessment methods exist that can be used to assess knowledge and skills. Methods of assessment that are commonly used for assessing competence based qualifications such as N/SVQs include the following:

- Product evidence – this relates to the outcome of the candidate’s work, and the actual product that is generated as a result of their work.
- Direct observation – where an assessor (or credible witness) will directly observe the candidate undertaking certain tasks/ creating products that occur as part of their role. Observations must be referenced to the elements covered
- Question/ answer – these will often supplement the methods above, for example the assessor may ask the candidate a number of questions whilst they are undertaking a task. Questioning is a useful way to establish knowledge and to generate evidence of this
- Witness testimony – credible witnesses may be identified who can for example testify that the candidate can successfully undertake certain tasks
- Personal statement – declaration made by the candidate that should be referenced to elements

Centres should ensure that their Assessors use the methods above to assess candidates for this qualification.

Template assessment documents including an Assessor Report can be found at Appendix 3.

### **6.3.2 Producing evidence**

The methods of assessment must generate evidence to demonstrate the candidates’ competence. Evidence produced in the workplace is central to Construction Skills Consolidated Assessment Strategy. Workplace evidence is vital to ensuring that the candidate is competent to industry standards and a suitable way of recording this must be used.

The following indicates the type of evidence generated by the methods on the section above:

- Product evidence –Photographic or video evidence is often used to record this, or it may also be recorded via the method below. Labelled photographs and/or videos that clearly show the candidate are sources of evidence for this purpose.
- Direct observation –observations must be recorded via an Assessor or other report (e.g. witness statement)
- Question/ answer –both the questions and the candidate’s responses to these must be recorded either in writing or via some audio or visual device (e.g. part of a video recording).
- Witness testimony – this may be written, audio or visual recordings
- Personal statement – the declaration made by the candidate must be recorded

All of the above must be referenced to the evidence that they cover. Templates that may be used for recording evidence are at Appendix 3.

Feedback should be given to the candidate on an on-going basis and where there are any gaps or shortfalls in evidence then these should be incorporated into the Assessment Plan.

Assessment must meet the requirements of the performance criteria, knowledge and understanding documented for each unit of assessment. Methods of assessment must



ensure coverage of all elements, scope and range, and generate sufficient evidence to demonstrate competence. A holistic approach towards the collection of evidence is encouraged. The focus should be on assessing activities generated by the whole work experience rather than focusing on specific tasks. This would show how evidence requirements could be met across the qualification to make the most efficient use of evidence.

Direct evidence produced through normal performance in the workplace is the primary source for meeting these requirements. This includes naturally occurring evidence, direct observation of activities and witness testimony as relevant, all of which must be recorded. Workplace evidence must be supported by the required evidence of knowledge and understanding. This evidence may be identified by:

- questioning the candidate
- recognised industry education and training programme assessment or professional interview assessment that has been matched to NOS requirements
- performance evidence/ completed work

All of which must be recorded and made available for verification purposes. Workplace evidence of skills cannot be simulated for this qualification.

### **6.3.3 Assessing evidence**

Evidence must be assessed against the units/ elements to establish whether the candidate is competent with regards to their performance and knowledge. In order to achieve the qualification candidates must achieve a 'pass'. The evidence must show that the candidate consistently (i.e. on more than one occasion) meets all of the elements across the scope/range of each unit.

If there is insufficient evidence to make this judgement, then plans must be made as to how the candidate can produce further evidence in order to demonstrate competence.

Assessors must check that the evidence produced is sufficient in volume, relevant and current. They must also be confident that the evidence has been generated by the candidate. Assessors and candidates normally sign documentation to declare that the evidence produced is that of the candidate and no other.

### **6.3.4 Recording evidence**

Evidence (or reference to where certain evidence is located) is normally kept in a portfolio. This may be paper-based or electronic. All evidence contained within the portfolio must be clearly referenced to the units and elements. Candidates' progress can therefore be tracked. Note that certain pieces of evidence can be recorded across more than a single element. Tracking is important to show where this is that case.

It is helpful to give each piece of evidence a number so that this can be mapped across elements. See the template forms at Appendix 4. Assessment decisions made against the evidence must also be recorded so that an IV or an EV can see these. All evidence must be kept for internal and external verification.

## 7. Assessors

7.1 The occupational competence of assessors is defined in '*Construction Skills Consolidated Assessment Strategy for Construction and the Built Environment: Craft, Supervisory, Technical, Managerial and Professional National Vocational Qualifications (NVQs) and Scottish Vocational Qualifications (SVQs)*' (published December 2016, approved by ACG February 2017).

7.2 The roles and responsibilities of assessors is outlined in the section above. Assessors must be competent to perform their role and either hold the qualifications needed to carry out assessment – or achieve within 18 months of commencing their role:

- D32 or D33
- A1
- Level 3 Award in Assessing Competence in the Work Environment
- Level 3 Award in Assessing Vocationally Related Achievement
- Level 3 Certificate in Assessing Vocational Achievement
- an appropriate Assessor qualification as identified by SQA Accreditation

Assessors must also:

- have a sound, in-depth knowledge of, and uphold the integrity of, the relevant NOS and Assessment Strategy to enable them to carry out assessment to the standards specified
- have the occupational expertise (craft/ trade specific) before commencing their role so they have up to date experience, knowledge and understanding of the particular aspects of work they are assessing
- only assess in their acknowledged area of occupational competence
- maintain the currency of this for the duration of their role
- know QFI's requirements for recording assessment decisions and maintaining assessment records

7.3 Holders of A1 and D32/33 must assess to the current National Occupational Standards (NOS) for Learning and Development.

7.4 Assessors must be registered with QFI. The Centre Handbook provides details.

7.5 The assessment decisions of unqualified assessors must be countersigned by the IV.

## 8. Internal verification

8.1 Centres' internal assessment processes and practices must be effective and support the integrity and consistency of the qualification. This is achieved through the internal quality assurance that is undertaken by the approved centre, and the external quality assurance that is undertaken by QFI. Centres must operate explicit, written internal quality assurance procedures to ensure:

- the accuracy and consistency of assessment decisions between assessors operating at the centre
- that assessors are consistent in their interpretation and application of the qualifications or unit(s) learning outcomes

8.2 Centres must appoint IVs who will be responsible for:

- regular sampling evidence of assessment decisions made by all assessors across all aspects of assessment for the qualification. Sampling must include direct observation of assessment practice
- maintaining up-to-date records of IV and sampling activity (what was evidence was sampled or assessors / IV observed where there is more than one) and ensuring that these are available for external quality assurance
- establishing procedures to ensure that all assessors interpret the learning outcomes in the same way
- monitoring and supporting the work of assessors
- facilitating appropriate staff development and training for assessors
- providing feedback to the EV on the effectiveness of assessment
- ensuring that any corrective action required by QFI is carried out within agreed timescales.

8.3 Centres must ensure that the decisions of unqualified IVs are checked, authenticated and countersigned by an IV who is appropriately qualified and occupationally expert. QFI will monitor a centre's compliance with these requirements through monitoring visits and certification claims.

8.4 The IV is also responsible and accountable for arranging the checking and countersigning process. IVs may verify only evidence that they did not assess themselves. Further guidance on internal quality assurance/verification is provided in the Centre Handbook. Appendix 5 of this document indicates suggested content for an IV strategy, and a template for sampling assessment evidence.

## 9. Internal verifiers

9.1 The occupational competence of IVs is defined in '*Construction Skills Consolidated Assessment Strategy for Construction and the Built Environment: Craft, Supervisory, Technical, Managerial and Professional National Vocational Qualifications (NVQs) and Scottish Vocational Qualifications (SVQs)*' (published December 2016, approved by ACG February 2017).

9.2 The roles and responsibilities of IVs is outlined above. IVs must be competent to perform their role and either hold the qualifications needed to carry out internal verification – or achieve within 18 months of commencing their role:

- D34
- V1
- Level 4 Award in the Internal Quality Assurance of the Assessment Process and Practice
- Level 4 Certificate in Leading the Internal Quality Assurance of Assessment Process and Practice
- an appropriate Internal Verifier qualification as identified by SQA Accreditation

9.3 It is strongly recommended that IVs also hold assessor qualifications (see section above).

9.4 Holders of V1/D34 must quality assure to the current National Occupational Standards (NOS) for Learning and Development.

9.5 IVs must be registered with QFI. The Centre Handbook provides details

## 10. External verification

10.1 External verification of this qualification ensures that the requirements are met for the '*Construction Skills Consolidated Assessment Strategy for Construction and the Built Environment: Craft, Supervisory, Technical, Managerial and Professional National Vocational Qualifications (NVQs) and Scottish Vocational Qualifications (SVQs)*' (published December 2016, approved by ACG February 2017).

10.2 Centre visits will normally take place on an annual basis, though these could be more frequent if deemed necessary as a result of QFI's risk assessments. The Centre Handbook provides further details on external verification including to prepare for centre visits.

QFI's appointed External Verifiers meet the requirements of the assessment strategy.

## **11. Certification**

11.1 Note that there is a lapsing period of two years for this qualification. This means that when the qualification expires, is withdrawn or replaced by a revised version, candidates registered have two years from the expiry date in which to complete the qualification. This will allow sufficient time for candidate's to compete and allow for currency of evidence.

## **12. Equality and diversity**

12.1 This qualification must be assessed in English.

12.2 Assessment must be inclusive and where appropriate reasonable adjustments made to ensure equality of access in line with QFI's Equality and Diversity Policy. Full details are included in the QFI Centre Handbook.

12.3 Special consideration is not normally given for competence based qualifications as it is necessary for candidates to demonstrate that they have the necessary skills and knowledge to achieve the qualification and operate safely in the workplace.

12.4 Equality data will be collected at the point of registration. This is for monitoring purposes only and will include age, gender, ethnicity, and disability.

## **13. Fees**

13.1 The current fees for this qualification, and for individual units, are included in the QFI Fees and Invoicing document. This document also details what is/ is not included in fees.

13.2 Fees may be broken down to a reasonable level upon request to QFI.

## APPENDIX 1 - CANDIDATE TEMPLATE DOCUMENTS

### Sample Form Induction checklist

This document indicates what may be covered as part of a candidate's induction. This list is not exhaustive.

	Tick
Qualification information: <ul style="list-style-type: none"> <li>• Units</li> <li>• Structure</li> <li>• Summary of assessment</li> <li>• Awarding body</li> </ul>	
Roles and responsibilities: <ul style="list-style-type: none"> <li>• Candidate</li> <li>• Assessor</li> <li>• Internal Verifier</li> <li>• External Verifier</li> </ul>	
Training and assessment process: <ul style="list-style-type: none"> <li>• Planning</li> <li>• Collection of evidence (including methods)</li> <li>• Review of evidence</li> <li>• Feedback on evidence</li> <li>• Verification of evidence</li> <li>• Certification</li> </ul>	
Policies: <ul style="list-style-type: none"> <li>• Complaints</li> <li>• Appeals</li> <li>• Malpractice</li> <li>• Data protection</li> <li>• Health and safety</li> <li>• Equality (including reasonable adjustments/ additional support)</li> </ul>	
Forms: <ul style="list-style-type: none"> <li>• Enrolment</li> <li>• Other</li> </ul>	
I confirm that I have received this induction and the associated documents:  Candidate name: .....  Candidate signature: .....  Date: .....	

## APPENDIX 2

### UNITS

#### Mandatory units

COSVR209	Confirm work activities and resources for the work
<p><b>Overview</b></p> <p>This standard, in the context of your occupation and work environment, is about</p> <ol style="list-style-type: none"> <li>1 identifying own work activities</li> <li>2 adopting safe and healthy working practices</li> <li>3 identifying resources to carry out the work</li> <li>4 confirmation of a work programme/schedule for own occupational area of work being carried out</li> </ol>	
<p><b>Performance criteria</b></p> <p>You must be able to:</p> <p>P1 identify the work activities and assess the resources required from the information available and plan the sequence of work</p> <p>P2 obtain clarification and advice where the resources required are not available</p> <p>P3 evaluate the work activities against project requirements and the requirements of any significant external factors</p> <p>P4 identify work activities which influence each other and make the best use of the resources available</p> <p>P5 identify changed circumstances that will require alterations to the work programme and justify them to the decision makers</p>	
<p><b>Knowledge and understanding</b></p> <p>You need to know and understand:</p> <p><b>Performance Criteria 1</b></p> <p><b>Sequence of work</b></p> <p>K1 how to identify the work activities</p> <p>K2 how to assess the resources needed from the information available</p> <p>K3 how to prepare a work programme</p> <p><b>Performance Criteria 2</b></p> <p><b>Clarification and advice on the resources</b></p> <p>K4 how to obtain clarification and advice where the resources required are not available</p> <p><b>Performance Criteria 3</b></p> <p><b>Project requirements and external factors</b></p> <p>K5 evaluation of the work activities against project requirements and the requirements of significant external factors</p> <p><b>Performance Criteria 4</b></p> <p><b>Work activities</b></p> <p>K6 how to identify which work activities influence each other</p> <p>K7 how to determine how long each work activity will take and the sequence of activities</p> <p>K8 how work activities and the use of resources can impact on zero and low carbon requirements</p> <p><b>Performance Criteria 5</b></p> <p><b>Alterations to the work programme</b></p>	

K9 how to identify alterations to the work programme to meet changed circumstances  
K10 how to assess the contractual/work effects resulting from alterations to the work programme  
K11 how to justify to decision makers the effects resulting from alterations to the work programme

**Additional information**

**Scope/ range related to performance criteria**

**Performance Criteria 1**

1 record(s) containing the resources required for the work relating to

- 1.1 occupations associated with the work
- 1.2 tools, plant and/or ancillary equipment
- 1.3 materials and components

2 formulate your own plan for the sequence of work

**Performance Criteria 2**

3 record(s) which confirms and advises on what resources are, or are not, available for the work

**Performance Criteria 3**

4 record(s) covering project requirements

5 external factors influencing the work relating to

- 5.1 other occupations and/or customers
- 5.2 resources
- 5.3 weather conditions
- 5.4 health and safety requirements

**Performance Criteria 4**

6 record(s) covering activities that have an influence on each other and the best use of resources

- 6.1 other occupations and/or customers
- 6.2 materials and components
- 6.3 tools, plant and/or ancillary equipment

**Performance Criteria 5**

7 record(s) of proposed alterations to the work and the circumstances to justify them

8 inform line management and/or customer of required changes

**Additional information**

**Scope/ range related to knowledge and understanding**

**Clarification and advice from**

- 1 the customer/customer's representative
- 2 manufacturer's technical information
- 3 trade literature
- 4 organisational procedures

**Evaluation**

- 5 by work study
- 6 by risk assessment

**External factors**

- 7 other related programmes
- 8 special working conditions
- 9 weather conditions
- 10 other occupations/people
- 11 resources
- 12 health and safety requirements

**Programme**

13 documentation relating to the following and/or occupation specific requirements



- 13.1 action lists
- 13.2 method statements
- 13.3 duration
- 13.4 schedules

**Project requirements**

- 14 contract conditions
- 15 contract programme stipulations
- 16 health and safety requirements of operatives

**Resources**

- 17 other occupations/people associated with the work
- 18 tools, plant and/or ancillary equipment
- 19 materials and components
- 20 awareness of zero and low carbon requirements and the way resources may be used to make a positive contribution to the environment

Developed by: ConstructionSkills Version: 2

Date approved: March 2011 Indicative review date: February 2016

Validity: Current Status: Original

Originating organisation: ConstructionSkills Original URN: VR209

Relevant occupations: Construction and Building Trades nec; Construction and Building Trades Supervisors Suite: Occupational Work Supervision (Construction); Accessing Operations and Rigging (Construction); Cladding Occupations (Construction); Decorative Finishing and Industrial Painting Occupations (Construction); Floorcovering Occupations (Construction); Formwork (Construction); Heritage Skills (Construction); Interior Systems (Construction); Building Maintenance Multi trade Repair and Refurbishment Operations; Mastic Asphaltting (Construction); Plastering (Construction); Roofing Occupations (Construction); Specialist Installation Occupations (Construction); Stonemasonry (Construction); Sub-structure Work Occupations (Construction); Trowel Occupations (Construction); Wall and Floor Tiling (Construction); Wood Machining (Construction/Sawmilling Extrusion/Furniture); Wood Occupations (Construction)

Key words: Plan; Programme; Schedule; Record

**COSVR210**

**Develop and maintain good working relationships**

**Overview**

This standard, in the context of your occupation and work environment, is about

- 1 interpreting information
- 2 adopting safe and healthy working practices
- 3 working with, informing and supporting people
- 4 developing and maintaining good occupational working relationships

**Performance criteria**

You must be able to:

- P1 develop, maintain and encourage working relationships to promote goodwill and trust
- P2 inform relevant people about work activities in an appropriate level of detail and with an appropriate degree of urgency
- P3 offer advice and help to relevant people about work activities and encourage questions, requests for clarification and comments
- P4 clarify the proposals with the relevant people and discuss alternative suggestions
- P5 resolve differences of opinion in ways that minimise offence and maintain goodwill, trust and respect

**Knowledge and understanding**

You need to know and understand:

Performance Criteria 1: Working relationships

K1 how to maintain and encourage working relationships to promote goodwill and trust with relevant people

K2 how to develop working relationships to promote goodwill and trust

K3 how to apply the principles of equality and diversity

Performance Criteria 2: Inform people

K4 how to inform relevant people about work activities in an appropriate level of detail and with an appropriate degree of urgency

Performance Criteria 3: Offer advice

K5 how to encourage questions, requests for clarification and comments

K6 how to offer advice and help to people about work activities

Performance Criteria 4: Deal with alternative proposals

K7 how to clarify alternative proposals with the relevant people

K8 how to suggest alternative proposals

Performance Criteria 5: Resolve conflicts

K9 how to resolve differences of opinion in ways which minimise offence and maintain goodwill, trust and respect

**Additional information****Scope/ range relating to performance criteria**

Performance Criteria 1

1 record(s) of information on advice provided about occupational work activities and/or associated occupations

2 apply the principles of equality and diversity

Performance Criteria 2

3 record(s) of information and advice given about carrying out the work activities

3.1 appropriate timescales

3.2 health and safety requirements

3.3 co-ordination of work procedures

Performance Criteria 3

4 record(s) of information and advice given about methods of occupational work activities to achieve the required outcome

Performance Criteria 4

5 outline notes of discussions relating to the occupational work activity and/or other occupations involved

Performance Criteria 5

6 outline notes of agreed activities that satisfy those involved, to meet the required outcome of the proposed method of work

**Scope/ range relating to knowledge and understanding**

Equality and diversity

1 show consideration for the needs of individuals by applying the principles of equality and diversity

Goodwill and trust

2 keeping promises and undertakings

3 honest relationships

4 constructive relationships

5 co-operation and dialogue

Inform/Offer advice

6 orally

7 in writing

8 using drawings/sketches

People  
 9 colleagues  
 10 employers  
 11 customers  
 12 contractors  
 13 suppliers of products and services  
 14 those affected by the work/project  
 Work activities  
 15 progress  
 16 results  
 17 achievements  
 18 occupational problems  
 19 occupational opportunities  
 20 health and safety requirements  
 21 co-ordinated work  
 Working relationships  
 22 formal  
 23 informal

Developed by: ConstructionSkills Version: 3  
 Date approved: March 2011 Indicative review date: February 2016  
 Validity: Current Status: Original

Originating organisation: ConstructionSkills Original URN: VR210

Relevant occupations: Construction and Building Trades nec; Construction and Building Trades Supervisors  
 Suite: Occupational Work Supervision (Construction); Accessing Operations and Rigging (Construction);  
 Cladding Occupations (Construction); Decorative Finishing and Industrial Painting Occupations (Construction);  
 Floorcovering Occupations (Construction); Formwork (Construction); Heritage Skills (Construction); Interior  
 Systems (Construction); Building Maintenance Multi trade Repair and Refurbishment Operations; Mastic  
 Asphaltting (Construction); Plastering (Construction); Roofing Occupations (Construction); Specialist Installation  
 Occupations (Construction); Stonemasonry (Construction); Sub-structure Work Occupations (Construction);  
 Trowel Occupations (Construction); Wall and Floor Tiling (Construction); Wood Machining  
 (Construction/Sawmilling Extrusion/Furniture); Wood Occupations (Construction)  
 Key words: Discussions; Advice; Outcomes; Goodwill; Trust; Equality; Diversity

## COSVR211

### Confirm the occupational method of work

#### Overview

This standard, in the context of your occupation and work environment, is about

- 1 assessing project data to determine occupational work methods
- 2 adopting safe and healthy working practices
- 3 selecting the methods of work
- 4 confirming the methods of work to the relevant people associated with the occupation
- 5 sourcing additional information

#### Performance criteria

You must be able to:

- P1 assess the available project data accurately to determine the occupational work method  
 P2 obtain additional information from alternative sources in cases where the available project data is insufficient

P3 identify work methods that will make the best use of resources and meet project, statutory and contractual requirements

P4 confirm and communicate the selected work method to relevant personnel

**Knowledge and understanding**

You need to know and understand:

**Performance Criteria 1**

**Assessment of project data**

K1 how to summarise project data

K2 how to assess the available project data and interpret the work method

**Performance Criteria 2**

**Information sources for project data**

K3 how to obtain additional information from alternative sources when the available project data is insufficient

**Performance Criteria 3**

**Identify work methods**

K4 how to identify work methods against technical and project criteria to make the best use of resources and meet project, statutory and contractual requirements

K5 how methods of work can achieve zero or low carbon outcomes

**Performance Criteria 4**

**Communicate the method of work**

K6 how to confirm and communicate the work method to relevant people

K7 how to apply the principles of equality and diversity when communicating

**Additional information**

**Scope/ range related to performance criteria**

**Performance Criteria 1**

1 interpret drawings, specifications, schedules, manufacturer's information, method of work, risk assessment and programme of work

**Performance Criteria 2**

2 outline notes on information obtained from alternative sources about the work to be carried out

**Performance Criteria 3**

3 record(s) of potential work methods to carry out the occupational work activity and meet health and safety requirements relating to technical and/or project criteria

**Performance Criteria 4**

4 outline notes for confirmation and communication on the selected occupational work method

**Additional information**

**Scope/ range related to knowledge and understanding**

**Alternative sources**

1 the customer(s) or their representative

2 suppliers

3 regulatory authorities

4 manufacturer's literature

**Communicate**

5 listening, written, oral, visual and electronic

6 show consideration for the needs of individuals by applying the principles of equality and diversity

**Project criteria**

7 conformity to statutory requirements

- 8 customer and user needs
- 9 contract requirements in terms of time, quantity and quality
- 10 environmental considerations

**Project data**

- 11 quantities required
- 12 specifications
- 13 detailed drawings
- 14 health and safety requirements
- 15 timescales
- 16 scope of works

**Technical criteria**

- 17 materials
- 18 health, safety and welfare (principles of protection)
- 19 fire protection
- 20 access and egress
- 21 equipment availability
- 22 availability of competent workforce
- 23 pollution risk
- 24 waste and disposal
- 25 zero and low carbon outcomes
- 26 weather conditions

**Work method**

- 27 standard work procedures
- 28 sequence of work
- 29 organisation of resources (people, equipment, materials)
- 30 work techniques
- 31 working conditions (health, safety and welfare)
- 32 risk assessment

Developed by: ConstructionSkills Version number: 2  
 Date approved: March 2011 Indicative review date: February 2016  
 Validity: Current. Status: Original

Originating organisation: ConstructionSkills. Original URN: VR211

Relevant occupations Construction and Building Trades nec; Construction and Building Trades Supervisors Suite: Occupational Work Supervision (Construction); Accessing Operations and Rigging (Construction); Building Maintenance Multi-trade Repair and Refurbishment Operations; Cladding Occupations (Construction); Decorative Finishing and Industrial Painting Occupations (Construction); Floorcovering Occupations (Construction); Formwork (Construction); Heritage Skills (Construction); Interior Systems (Construction); Mastic Asphaltting (Construction); Plastering (Construction); Roofing Occupations (Construction); Specialist Installation Occupations (Construction); Stonemasonry (Construction); Sub-structure Work Occupations (Construction); Trowel Occupations (Construction); Wall and Floor Tiling (Construction); Wood Machining (Construction/Sawmilling Extrusion/Furniture); Wood Occupations (Construction)

Key words: Communication; Regulations; Risk assessments; Programme; Zero/low carbon

**COSVR659**

**Operate plant or machinery for non-operational activities**

**Overview**

This standard is about

- 1 interpreting information
- 2 adopting safe and healthy working practices

- 3 selecting materials, components, consumables and equipment
- 4 operating plant or machinery for non-operational activities such as inspection, repair, maintenance, testing or travel

**Performance criteria**

You must be able to:

- P1 interpret the given operating information relating to the use of plant or machinery and confirm its relevance
- P2 organise with others the sequence in which the work is to be carried out
- P3 comply with the relevant, current legislation, special legal status documents, official guidance and organisational procedures to maintain safe and healthy work practices
- P4 request resources to sustain plant or machinery operations to complete the programme of work
- P5 select plant or machinery resources for the methods of work and operations to be carried out
- P6 comply with organisational procedures to minimise the risk of damage to the work and surrounding area
- P7 comply with the given contract information to carry out the work efficiently to the required specification
- P8 complete the work within the allocated time, in accordance with the programme of work

**Knowledge and understanding**

You need to know and understand:

**Performance Criteria 1**

**Interpretation of information**

- K1 the organisational procedures developed to report and rectify inappropriate information and unsuitable resources, and how they are implemented
- K2 the types of information, their source and how they are interpreted
- K3 the organisational procedures to solve problems with the information and why it is important they are followed

**Performance Criteria 2**

**Organise with others**

- K4 communication of ideas between team members
- K5 organisation of resources in conjunction with the progress of work
- K6 the skills required to carry out the work

**Performance Criteria 3**

**Safe work practices**

- K7 the level of understanding operatives must have of information for relevant, current legislation, Approved Codes of Practice and official guidance and how it is applied
- K8 how emergencies should be responded to and who should respond
- K9 the organisational security procedures for plant and/or machinery, tools, equipment and personal belongings
- K10 what the accident reporting procedures are and who is responsible for making the report
- K11 why, when and how health and safety control equipment should be used

**Performance Criteria 4**

**Request resources**

- K12 the organisational procedures for requisitioning consumables and other resources

**Performance Criteria 5**

**Selection of resources**

- K1 the characteristics, quality, uses, sustainability, limitations and defects associated with plant resources and how defects should be rectified

- K2 how the resources should be used and how any problems associated with the resources are reported
- K3 the organisational procedures to select resources, why they have been developed and how they are used
- K4 the hazards associated with the resources and methods of work and how they are overcome

**Performance Criteria 6**

**Minimise the risk of damage**

- K5 how to protect work from damage and the purpose of protection
- K6 why disposal of waste should be carried out safely and how it is achieved

**Performance Criteria 7**

**Meet the contract specification**

- K7 how methods of work, to meet the specification, are carried out and problems reported
- K8 how maintenance of plant and/or machinery, tools and equipment is carried out

**Performance Criteria 8**

**Allocated time**

- K9 what the programme is for the work to be carried out in the estimated, allocated time and why deadlines should be kept

**Additional information**

**Scope/ range related to performance criteria**

**Performance Criteria 1**

- 1 interpretation of drawings, specifications, schedules, method statements, risk assessments, user manuals and manufacturers' information related to the plant or machinery operation and the activity to be completed

**Performance Criteria 2**

- 2 organisation of own work
- 3 communication with team members and other associated occupations about the plant or machinery operation and the work to be carried out

**Performance Criteria 3**

- 4 avoidance of risk by complying with the given safety information relating to at least four of the following:
  - 4.1 methods of work
  - 4.2 safe use of health and safety control equipment
  - 4.3 safe use and storage of plant, machinery and tools
  - 4.4 safe use of access equipment
  - 4.5 specific risks to health

**Performance Criteria 4**

- 5 follow organisational procedures for the requisition of consumables, materials and other resources

**Performance Criteria 5**

- 6 selection of resources associated with own work
  - 6.1 tools and ancillary equipment and/or accessories
  - 6.2 consumables

**Performance Criteria 6**

- 7 protection of the work and its surrounding area from damage
- 8 minimise damage and maintain a clean work space
- 9 disposal of waste in accordance with current legislation

**Performance Criteria 7**

- 10 demonstration of work skills to prepare, setup, configure, start, manoeuvre, run, support, park, stop and secure
- 11 use and maintain hand tools, ancillary equipment and/or accessories
- 12 prepare, configure and operate plant or machinery for non-operational activities, (e.g. inspection, repair, maintenance, testing or travel), to given working instructions for at least two of the following:
  - 12.1 hand-operated power tools

- 12.2 static machinery
- 12.3 pedestrian controlled equipment
- 12.4 tracked plant
- 12.5 wheeled plant
- 12.6 rollers
- 13 shut down and secure plant or machinery
- 14 record and report findings
- Performance Criteria 8**
- 15 completion of own work within the estimated, allocated time to meet the needs of other occupations and/or client

### **Additional information**

#### **Scope/ range related to knowledge and understanding**

#### **Communication**

- 1 discussions, sketches and briefings
  - Disposal of waste
- 2 environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance

#### **Emergencies**

- 3 operative's response to situations in accordance with organisational authorisation and personal skills when involved with
  - 3.1 fires, spillages, injuries
  - 3.2 emergencies relating to occupational activities

#### **Hazards**

- 4 those identified by method of work, risk/COSHH assessments, manufacturers' technical information, statutory regulations and official guidance

#### **Health and safety control equipment**

- 5 identified by the principles of protection for occupational use, types and purpose of each type, work situations and general work environment
  - 5.1 collective protective measures
  - 5.2 personal protective equipment (PPE)
  - 5.3 respiratory protective equipment (RPE)
  - 5.4 local exhaust ventilation (LEV)

#### **Information**

- 6 drawings, specifications, schedules, method statements, risk assessments, user manuals, manufacturers' information and current regulations governing the operation of plant and machinery

#### **Legislation, Approved Codes of Practice and official guidance**

- 7 this relates to the operative's responsibilities regarding potential accidents and health hazards whilst working in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement/storage of materials and by manual handling and mechanical lifting

#### **Maintenance**

- 8 operative care of plant and machinery, hand tools, ancillary equipment and/or accessories
  - Methods of work
- 9 application of knowledge for safe and healthy work practices, procedures and skills relating to the method/area of work and materials used to:
  - 9.1 identify capabilities, characteristic and limitations of plant and machinery (ride on and remote control) including hand-operated power tools, static machinery, pedestrian controlled equipment, wheeled plant and tracked plant, rollers



- 9.2 consider the area available for the movements required (height restrictions, obstructions, overhead / underground obstructions, services, ventilation and point loading)
- 9.3 complete pre-use, pre-start and pre-movement checks
- 9.4 prepare the plant and machine for operation
- 9.5 manoeuvre and position plant and machine
- 9.6 manoeuvre plant and machinery on slopes and inclines, uneven terrain, rough terrain, un-compacted ground, areas with restricted clearances, in inclement and extreme weather and areas where there is other vehicle and pedestrian traffic
- 9.7 operate plant and machinery within operational limitations
- 9.8 support plant and machinery for the activity (inspection, repair, maintenance, testing or travel)
- 9.9 follow signals and instructions
- 9.10 shut down, park and secure plant and machine
- 9.11 immobilise plant and machinery
- 9.12 prepare plant and machinery for transportation
- 9.13 report findings and defects
- 9.14 use hand tools, ancillary equipment and accessories
- 9.15 work at height
- 9.16 use access equipment
- 9.17 complete and maintain records
- 10 team work and communication
- 11 needs of other occupations associated with operating plant and machinery for non-operational activities

#### **Problems**

- 12 those arising from information, resources and methods of work
  - 12.1 own authority to rectify
  - 12.2 organisational reporting procedures

#### **Programme**

- 13 types of progress charts, timetables and estimated times
- 14 organisational procedures for reporting circumstances which will affect the work programme  
Protect work
- 15 protect work against damage from general workplace activities, other occupations and adverse weather conditions  
Resources
- 16 materials, components and equipment relating to types, quantity, quality, sizes and the sustainability of standard and/or specialist:
  - 16.1 consumables
  - 16.2 hand tools, ancillary equipment and/or accessories
- 17 methods of calculating weight, bearing pressure, quantity, length and area associated with the method/procedure to operate plant and machinery for non-operational activities

#### **Security procedures**

- 18 site, workplace, company and operative

#### **Skills**

- 19 own occupation and occupations related to the work

Developed by: ConstructionSkills Version number:2

Date approved: December 2012, Indicative review date: December 2017

Validity: Current, Status: Original

Originating organisation: ConstructionSkills, Original URN: COSPM04

Relevant occupations: Mobile Machine Drivers and Operatives; Plant and Machine Operatives

Suite: Construction Plant or Machinery Maintenance; Plant Operations



Key words: Plant; Machinery; Hand operated power tools; Static machinery; Pedestrian controlled equipment; Wheeled plant; Tracked plant; Rollers; Non-operational activities; Maintenance

## **COSVR664**

### **Diagnose faults in plant or machinery systems or components**

#### **Overview**

This standard is about

- 1 interpreting information
- 2 adopting safe and healthy working practices
- 3 selecting materials, components, consumables and equipment
- 4 diagnosing faults in plant or machinery systems or components

#### **Performance criteria**

You must be able to:

- P1 interpret the given information relating to the work and resources to confirm its relevance
- P2 comply with the given, relevant legislation and official guidance to carry out your work and maintain safe and healthy work practices
- P3 select the required quantity and quality of resources for the methods of work
- P4 comply with organisational procedures to minimise the risk of damage to the work and surrounding area
- P5 comply with the given contract information to carry out the work efficiently to the required specification
- P6 complete the work within the allocated time, in accordance with the programme of work

#### **Knowledge and understanding**

You need to know and understand:

##### **Performance Criteria 1**

##### **Interpretation of information**

- K1 the organisational procedures developed to report and rectify inappropriate information and unsuitable resources, and how they are implemented
- K2 the types of information, their source and how they are interpreted
- K3 the organisational procedures to solve problems with the information and why it is important they are followed

##### **Performance Criteria 2**

##### **Safe work practices**

- K4 the level of understanding operatives must have of information for relevant, current legislation and official guidance and how it is applied
- K5 how emergencies should be responded to and who should respond
- K6 the organisational security procedures for tools, equipment and personal belongings
- K7 what the accident reporting procedures are and who is responsible for making the report
- K8 why, when and how health and safety control equipment should be used

##### **Performance Criteria 3**

##### **Selection of resources**

- K9 the characteristics, quality, uses, sustainability, limitations and defects associated with the resources and how defects should be rectified
- K10 how the resources should be used and how any problems associated with the resources are reported
- K11 the organisational procedures to select resources, why they have been developed and how they are used
- K12 the hazards associated with the resources and methods of work and how they are overcome

##### **Performance Criteria 4**

##### **Minimise the risk of damage**

K13 how to protect work from damage and the purpose of protection

K14 why disposal of waste should be carried out safely and how it is achieved

**Performance Criteria 5**

**Meet the contract specification**

K15 how methods of work, to meet the specification, are carried out and problems reported

K16 how maintenance of tools and equipment is carried out

**Performance Criteria 6**

**Allocated time**

K17 what the programme is for the work to be carried out in the estimated, allocated time and why deadlines should be kept

**Additional information**

**Scope/ range related to performance criteria**

**Performance Criteria 1**

1 interpretation of drawings, specifications, schedules, method statements, risk assessments, workshop manuals, technical services bulletins, parts manuals and manufacturers' information related to the work to be carried out

**Performance Criteria 2**

2 avoidance of risk by complying with the given information relating to at least five of the following

- 2.1 methods of work
- 2.2 safe use of health and safety control equipment
- 2.3 safe use of access equipment
- 2.4 safe use, storage and handling of materials
- 2.5 safe use and storage of tools and equipment
- 2.6 specific risks to health

**Performance Criteria 3**

3 selection of resources associated with own work

- 3.1 materials, components and fixings
- 3.2 tools and equipment
- 3.3 consumables

**Performance Criteria 4**

4 protection of the work and its surrounding area from damage

5 minimise damage and maintain a clean work space

6 disposal of waste in accordance with current legislation

**Performance Criteria 5**

7 demonstration of work skills to select, investigate, interrogate, observe, listen, smell, feel, apply, identify, collect, analyse, interpret, diagnose, report

8 use and maintain hand tools, portable power tools, specialist diagnostic and testing tools and ancillary equipment

9 identify and diagnose functional and operational faults in plant or machinery, systems or components to given working instructions for at least four of the following

- 9.1 power unit
- 9.2 transmission
- 9.3 steering
- 9.4 hydraulics
- 9.5 pump
- 9.6 brakes
- 9.7 pneumatics
- 9.8 electrics
- 9.9 electronics

- 9.10 operating ancillaries or attachments
- 10 complete functional, operational and safety checks
- 11 complete and maintain records

**Performance Criteria 6**

- 12 completion of own work within the estimated, allocated time to meet the needs of other occupations and/or client

**Additional information**

**Scope/ range related to knowledge and understanding**

Disposal of waste

- 1 environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance

**Emergencies**

- 2 operative's response to situations in accordance with organisational authorisation and personal skills when involved with
  - 2.1 fires, spillages, injuries
  - 2.2 emergencies relating to occupational activities

**Hazards**

- 3 those identified by risk assessment, method of work, manufacturers' technical information, statutory regulations and official guidance  
Health and safety control equipment
- 4 identified by the principles of protection for occupational use, types and purpose of each type, work situations and general work environment
  - 4.1 collective protective measures
  - 4.2 personal protective equipment (PPE)
  - 4.3 respiratory protective equipment (RPE)
  - 4.4 local exhaust ventilation (LEV)

**Information**

- 5 drawings, specifications, schedules, method statements, risk assessments, manufacturers' information and current regulations associated with diagnosing faults in plant or machinery systems or components  
Legislation and official guidance
- 6 this relates to the operative's responsibilities regarding potential accidents and health hazards whilst working in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement/storage of materials and by manual handling and mechanical lifting

**Maintenance**

- 7 operative care of hand tools and portable power tools, and ancillary equipment

**Methods of work**

- 8 application of knowledge for safe and healthy work practices, procedures and skills relating to the method/area of work and materials used to:
  - 8.1 collect and collate information from operators and users on symptoms and problems
  - 8.2 consider information from existing records
  - 8.3 analyse information to define the diagnosis start point
  - 8.4 investigate and establish the most likely causes of the faults
  - 8.5 observe the operational functions of plant and machinery components and systems
  - 8.6 interpret sounds and smells
  - 8.7 collect and analyse data from diagnostic aids; multi-meters, pressure and flow gauges, computers, test lamps, portable appliance testing equipment and other specialist tools and equipment
  - 8.8 identify faults and determine the cause

8.9	determine and suggest repair requirements for faults in power units, transmissions, steering, hydraulic systems, pumps, brakes, pneumatic systems, electrical systems, electronic components and operating ancillaries and attachments
8.10	categorise faults by type (continual, intermittent or breakdown)
8.11	apply situational awareness to select routine and non-routine fault diagnosis procedures
8.12	determine the implications of faults for other work and the operational safety of the plant or machinery
8.13	report, mark, tag and place notices on plant and machinery systems and components deemed hazardous
8.14	use hand tools, specialist diagnostic and testing tools, portable power tools and equipment
8.15	work at height
8.16	use access equipment
8.17	complete and maintain records
9	team work and communication
10	needs of other occupations associated with the diagnosis of faults in plant and machinery systems and components
<b>Problems</b>	
11	those arising from information, resources and methods of work
11.1	own authority to rectify
11.2	organisational reporting procedures
<b>Programme</b>	
12	types of progress charts, timetables and estimated times
13	organisational procedures for reporting circumstances which will affect the work programme
14	protect work against damage from general workplace activities, other occupations and adverse weather conditions
<b>Resources</b>	
15	materials, components and equipment relating to types, quantity, quality, sizes and the sustainability of standard and/or specialist:
15.1	hand tools, portable powered tools, specialist diagnostic and testing tools and ancillary equipment
16	methods of calculating quantity, length, area, volume and wastage associated with the method/procedure to diagnose faults in plant and machinery systems and components
<b>Security procedures</b>	
17	site, workplace, company and operative

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 Originating organisation: ConstructionSkills Original URN: COSPM10  
 Relevant occupations: Construction and Building Trades  
 Suite: Construction Plant or Machinery Maintenance ; Plant Installations  
 Key words: Plant; Machinery; Systems; Components; Diagnose; Faults; Functional; Operational; Maintenance

<b>COSVR670</b> <b>Determine and complete service to maintain plant or machinery</b>
<b>Overview</b>  This standard is about: 1 interpreting information 2 adopting safe and healthy working practices

3 selecting materials, components, consumables and equipment  
 4 determining and completing servicing and maintaining plant or machinery by making adjustments as servicing progresses

**Performance criteria**

You must be able to:

- P1 interpret the given information relating to the work and resources to confirm its relevance
- P2 comply with the given, relevant legislation and official guidance to carry out your work and maintain safe and healthy work practices
- P3 select the required quantity and quality of resources for the methods of work
- P4 comply with organisational procedures to minimise the risk of damage to the work and surrounding area
- P5 comply with the given contract information to carry out the work efficiently to the required specification
- P6 complete the work within the allocated time, in accordance with the programme of work

**Knowledge and understanding**

You need to know and understand:

**Performance Criteria 1**

**Interpretation of information**

- K1 the organisational procedures developed to report and rectify inappropriate information and unsuitable resources, and how they are implemented
- K2 the types of information, their source and how they are interpreted
- K3 the organisational procedures to solve problems with the information and why it is important they are followed

**Performance Criteria 2**

**Safe work practices**

- K4 the level of understanding operatives must have of information for relevant, current legislation and official guidance and how it is applied
- K5 how emergencies should be responded to and who should respond
- K6 the organisational security procedures for tools, equipment and personal belongings
- K7 what the accident reporting procedures are and who is responsible for making the report
- K8 why, when and how health and safety control equipment should be used

**Performance Criteria 3**

**Selection of resources**

- K9 the characteristics, quality, uses, sustainability, limitations and defects associated with the resources and how defects should be rectified
- K10 how the resources should be used and how any problems associated with the resources are reported
- K11 the organisational procedures to select resources, why they have been developed and how they are used
- K12 the hazards associated with the resources and methods of work and how they are overcome

**Performance Criteria 4**

**Minimise the risk of damage**

- K13 how to protect work from damage and the purpose of protection
- K14 why disposal of waste should be carried out safely and how it is achieved

**Performance Criteria 5**

**Meet the contract specification**

- K15 how methods of work, to meet the specification, are carried out and problems reported
- K16 how maintenance of tools and equipment is carried out

**Performance Criteria 6**

**Allocated time**

K17 what the programme is for the work to be carried out in the estimated, allocated time and why deadlines should be kept

**Additional information**

**Scope/ range related to performance criteria**

**Performance Criteria 1**

- 1 interpretation of drawings, specifications, schedules, method statements, risk assessments, workshop manuals, technical services bulletins, parts manuals and manufacturers' information related to the work to be carried out

**Performance Criteria 2**

- 2 avoidance of risk by complying with the given information relating to at least five of the following
  - 2.1 methods of work
  - 2.2 safe use of health and safety control equipment
  - 2.3 safe use of access equipment
  - 2.4 safe use, storage and handling of materials
  - 2.5 safe use and storage of tools and equipment
  - 2.6 specific risks to health

**Performance Criteria 3**

- 3 selection of resources associated with own work
  - 3.1 materials, components and fixings
  - 3.2 tools and equipment
  - 3.3 consumables

**Performance Criteria 4**

- 4 protection of the work and its surrounding area from damage
- 5 minimise damage and maintain a clean work space
- 6 disposal of waste in accordance with current legislation

**Performance Criteria 5**

- 7 demonstration of work skills to select, investigate, interrogate, observe, listen, smell, feel, apply, identify, collect, analyse, interpret, diagnose, report
- 8 use and maintain hand tools, portable power tools, specialist diagnostic and testing tools and ancillary equipment
- 9 identify and diagnose functional and operational faults in plant or machinery, systems or components to given working instructions for at least four of the following
  - 9.1 power unit
  - 9.2 transmission
  - 9.3 steering
  - 9.4 hydraulics
  - 9.5 pump
  - 9.6 brakes
  - 9.7 pneumatics
  - 9.8 electrics
  - 9.9 electronics
  - 9.10 operating ancillaries or attachments
- 10 complete functional, operational and safety checks
- 11 complete and maintain records

**Performance Criteria 6**

- 12 completion of own work within the estimated, allocated time to meet the needs of other occupations and/or client

**Additional information**

## Scope/ range related to knowledge and understanding

### Disposal of waste

- 1 environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance

### Emergencies

- 2 operative's response to situations in accordance with organisational authorisation and personal skills when involved with
  - 2.1 fires, spillages, injuries
  - 2.2 emergencies relating to occupational activities

### Hazards

- 3 those identified by risk assessment, method of work, manufacturers' technical information, statutory regulations and official guidance

### Health and safety control equipment

- 4 identified by the principles of protection for occupational use, types and purpose of each type, work situations and general work environment
  - 4.1 collective protective measures
  - 4.2 personal protective equipment (PPE)
  - 4.3 respiratory protective equipment (RPE)
  - 4.4 local exhaust ventilation (LEV)

### Information

- 5 drawings, specifications, schedules, method statements, risk assessments, manufacturers' information and current regulations associated with diagnosing faults in plant or machinery systems or components

### Legislation and official guidance

- 6 this relates to the operative's responsibilities regarding potential accidents and health hazards whilst working in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement/storage of materials and by manual handling and mechanical lifting

### Maintenance

- 7 operative care of hand tools and portable power tools, and ancillary equipment

### Methods of work

- 8 application of knowledge for safe and healthy work practices, procedures and skills relating to the method/area of work and materials used to:
  - 8.1 collect and collate information from operators and users on symptoms and problems
  - 8.2 consider information from existing records
  - 8.3 analyse information to define the diagnosis start point
  - 8.4 investigate and establish the most likely causes of the faults
  - 8.5 observe the operational functions of plant and machinery components and systems
  - 8.6 interpret sounds and smells
  - 8.7 collect and analyse data from diagnostic aids; multi-meters, pressure and flow gauges, computers, test lamps, portable appliance testing equipment and other specialist tools and equipment
  - 8.8 identify faults and determine the cause
  - 8.9 determine and suggest repair requirements for faults in power units, transmissions, steering, hydraulic systems, pumps, brakes, pneumatic systems, electrical systems, electronic components and operating ancillaries and attachments
  - 8.10 categorise faults by type (continual, intermittent or breakdown)
  - 8.11 apply situational awareness to select routine and non-routine fault diagnosis procedures
  - 8.12 determine the implications of faults for other work and the operational safety of the plant or machinery
  - 8.13 report, mark, tag and place notices on plant and machinery systems and components deemed hazardous



- 8.14 use hand tools, specialist diagnostic and testing tools, portable power tools and equipment
  - 8.15 work at height
  - 8.16 use access equipment
  - 8.17 complete and maintain records
  - 9 team work and communication
  - 10 needs of other occupations associated with the diagnosis of faults in plant and machinery systems and components
- Problems**
- 11 those arising from information, resources and methods of work
    - 11.1 own authority to rectify
    - 11.2 organisational reporting procedures
- Programme**
- 12 types of progress charts, timetables and estimated times
  - 13 organisational procedures for reporting circumstances which will affect the work programme
- Protect work**
- 14 protect work against damage from general workplace activities, other occupations and adverse weather conditions
- Resources**
- 15 materials, components and equipment relating to types, quantity, quality, sizes and the sustainability of standard and/or specialist:
    - 15.1 hand tools, portable powered tools, specialist diagnostic and testing tools and ancillary equipment
  - 16 methods of calculating quantity, length, area, volume and wastage associated with the method/procedure to diagnose faults in plant and machinery systems and components
- Security procedures**
- 17 site, workplace, company and operative

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 Relevant occupations: Construction and Building Trades  
 Suite: Construction Plant or Machinery Maintenance; Plant Installations  
 Key words: Plant; Machinery; Systems; Components; Diagnose; Faults; Functional; Operational; Maintenance

**COSVR671**  
**Determine and advise on the viability of repair or replacement for returning plant or machinery to service**

**Overview**  
 This standard is about

- 1 interpreting information
- 2 adopting safe and healthy working practices
- 3 selecting materials, components, consumables and equipment
- 4 determining and advising on the work required and the value of returning plant or machinery to service by repair or replacement

**Performance criteria**  
 You must be able to:

- P1 interpret the given information relating to the work and resources to confirm its relevance

- P2 comply with the given, relevant legislation and official guidance to carry out your work and maintain safe and healthy work practices
- P3 select the required quantity and quality of resources for the methods of work
- P4 comply with organisational procedures to minimise the risk of damage to the work and surrounding area
- P5 comply with the given contract information to carry out the work efficiently to the required specification
- P6 complete the work within the allocated time, in accordance with the programme of work

**Knowledge and understanding**

You need to know and understand:

**Performance Criteria 1**

**Interpretation of information**

- K1 the organisational procedures developed to report and rectify inappropriate information and unsuitable resources, and how they are implemented
- K2 the types of information, their source and how they are interpreted
- K3 the organisational procedures to solve problems with the information and why it is important they are followed

**Performance Criteria 2**

**Safe work practices**

- K4 the level of understanding operatives must have of information for relevant, current legislation and official guidance and how it is applied
- K5 how emergencies should be responded to and who should respond
- K6 the organisational security procedures for tools, equipment and personal belongings
- K7 what the accident reporting procedures are and who is responsible for making the report
- K8 why, when and how health and safety control equipment should be used

**Performance Criteria 3**

**Selection of resources**

- K9 the characteristics, quality, uses, sustainability, limitations and defects associated with the resources and how defects should be rectified
- K10 how the resources should be used and how any problems associated with the resources are reported
- K11 the organisational procedures to select resources, why they have been developed and how they are used
- K12 the hazards associated with the resources and methods of work and how they are overcome

**Performance Criteria 4**

**Minimise the risk of damage**

- K13 how to protect work from damage and the purpose of protection
- K14 why disposal of waste should be carried out safely and how it is achieved

**Performance Criteria 5**

**Meet the contract specification**

- K15 how methods of work, to meet the specification, are carried out and problems reported
- K16 how maintenance of tools and equipment is carried out

**Performance Criteria 6**

**Allocated time**

- K17 what the programme is for the work to be carried out in the estimated, allocated time and why deadlines should be kept

**Additional information**

**Scope/ range related to performance criteria**

**Performance Criteria 1**

1 interpretation of drawings, specifications, schedules, procedures, method statements, risk assessments, workshop manuals, technical service bulletins, parts manuals, price lists and manufacturers' information related to the work to be carried out

**Performance Criteria 2**

- 2 avoidance of risk by complying with the given information relating to at least five of the following
- 2.1 methods of work
  - 2.2 safe use of health and safety control equipment
  - 2.3 safe use of access equipment
  - 2.4 safe use, storage and handling of materials
  - 2.5 safe use and storage of tools and equipment
  - 2.6 specific risks to health

**Performance Criteria 3**

- 3 selection of resources associated with own work
- 3.1 materials, components and fixings
  - 3.2 tools and equipment
  - 3.3 consumables

**Performance Criteria 4**

- 4 protection of the work and its surrounding area from damage
- 5 minimise damage and maintain a clean work space
- 6 disposal of waste in accordance with current legislation

**Performance Criteria 5**

- 7 demonstration of work skills to inspect, measure, check, collect, collate, analyse, record and report
- 8 use and maintain hand tools, portable power tools, specialist measuring and inspection instruments and ancillary equipment
- 9 inspect and assess plant or machinery in order to determine and advise on the viability of repair or replacement to given working instructions by consideration of at least five of the following
  - 9.1 time
  - 9.2 labour costs
  - 9.3 cost of component, sub-assemblies and parts
  - 9.4 cost of consumables
  - 9.5 cost of overheads (transport, delivery, operational down time, power consumption, specialist tools and services)
  - 9.6 cost of replacement, like for like
  - 9.7 cost of replacement, alternative item of plant or machinery
  - 9.8 benefits of replacement
  - 9.9 availability of resources and capability
  - 9.10 report findings

10 complete and maintain records

**Performance Criteria 6**

11 completion of own work within the estimated, allocated time to meet the needs of other occupations and/or client

**Additional information**

**Scope/ range related to knowledge and understanding**

**Disposal of waste**

1 environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance

**Emergencies**

2 operative's response to situations in accordance with organisational authorisation and personal skills when involved with

- 2.1 fires, spillages, injuries
- 2.2 emergencies relating to occupational activities

#### **Hazards**

- 3 those identified by risk assessment, method of work, manufacturers' technical information, statutory regulations and official guidance

#### **Health and safety control equipment**

- 4 identified by the principles of protection for occupational use, types and purpose of each type, work situations and general work environment
  - 4.1 collective protective measures
  - 4.2 personal protective equipment (PPE)
  - 4.3 respiratory protective equipment (RPE)
  - 4.4 local exhaust ventilation (LEV)

#### **Information**

- 5 drawings, specifications, schedules, procedures, method statements, risk assessments, workshop manuals, technical service bulletins, parts manuals, price lists, manufacturers' information and current regulations associated with construction plant or machinery maintenance

#### **Legislation and official guidance**

- 6 this relates to the operative's responsibilities regarding potential accidents and health hazards whilst working in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement/storage of materials and by manual handling and mechanical lifting

#### **Maintenance**

- 7 operative care of hand tools and portable power tools, specialist measuring and inspection instruments and ancillary equipment

#### **Methods of work**

- 8 application of knowledge for safe and healthy work practices, procedures and skills relating to the method/area of work and materials used to:
  - 8.1 inspect plant or machinery to determine the work requirements
  - 8.2 estimate costs: time and labour, component, sub-assemblies, parts, consumables, overheads (transport, delivery, operational down time, power consumption, specialist tools and services)
  - 8.3 identify the cost of like for like replacement
  - 8.4 identify different items of plant and machinery that will provide the same and improved operational service
  - 8.5 consider the benefits of replacement
  - 8.6 report findings
  - 8.7 use hand tools, portable power tools, specialist measuring and inspection instruments and ancillary equipment
  - 8.8 work at height
  - 8.9 use access equipment
  - 8.10 complete and maintain records
- 9 team work and communication
- 10 needs of other occupations associated with determining and advising on the viability of repair or replacement for returning plant and machinery to service

#### **Problems**

- 11 those arising from information, resources and methods of work
  - 11.1 own authority to rectify
  - 11.2 organisational reporting procedures

#### **Programme**

- 12 types of progress charts, timetables and estimated times
  - 13 organisational procedures for reporting circumstances which will affect the work programme
- Protect work

- 14 protect work against damage from general workplace activities, other occupations and adverse weather conditions
- Resources**
- 15 materials, components and equipment relating to types, quantity, quality, sizes and the sustainability of standard and/or specialist:
- 15.1 hand tools, portable powered tools, specialist measuring and inspection instruments and ancillary equipment
  - 15.2 fixings / fittings
- 16 methods of calculating quantity, length, area, volume and wastage associated with the method/procedure to determine the work required and the value of returning plant or machinery to service
- Security procedures**
- 17 site, workplace, company and operative

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 Date approved: December 2012 Indicative review date: December 2017  
 Validity: Current Status: Original  
 Originating organisation: ConstructionSkills Original URN: COSPM18  
 Relevant occupations: Construction and Building Trades  
 Suite: Construction Plant or Machinery Maintenance  
 Key words: Plant; Machinery; Service; Repair; Maintenance; Assess; Inspect; Viability; Value of returning

## Optional units

### COSVR663

#### Inspect plant or machinery for operational serviceability

##### Overview

This standard is about

- 1 interpreting information
- 2 adopting safe and healthy working practices
- 3 selecting materials, components, consumables and equipment
- 4 inspecting plant or machinery for operational serviceability

##### Performance criteria

You must be able to:

- P1 interpret the given information relating to the work and resources to confirm its relevance
- P2 comply with the given, relevant legislation and official guidance to carry out your work and maintain safe and healthy work practices
- P3 select the required quantity and quality of resources for the methods of work
- P4 comply with organisational procedures to minimise the risk of damage to the work and surrounding area
- P5 comply with the given contract information to carry out the work efficiently to the required specification
- P6 complete the work within the allocated time, in accordance with the programme of work

##### Knowledge and understanding

You need to know and understand:

##### Performance Criteria 1

##### Interpretation of information

- K1 the organisational procedures developed to report and rectify inappropriate information and unsuitable resources, and how they are implemented
- K2 the types of information, their source and how they are interpreted
- K3 the organisational procedures to solve problems with the information and why it is important they are followed

#### **Performance Criteria 2**

##### **Safe work practices**

- K4 the level of understanding operatives must have of information for relevant, current legislation and official guidance and how it is applied
- K5 how emergencies should be responded to and who should respond
- K6 the organisational security procedures for tools, equipment and personal belongings
- K7 what the accident reporting procedures are and who is responsible for making the report
- K8 why, when and how health and safety control equipment should be used

#### **Performance Criteria 3**

##### **Selection of resources**

- K9 the characteristics, quality, uses, sustainability, limitations and defects associated with the resources and how defects should be rectified
- K10 how the resources should be used and how any problems associated with the resources are reported
- K11 the organisational procedures to select resources, why they have been developed and how they are used
- K12 the hazards associated with the resources and methods of work and how they are overcome

#### **Performance Criteria 4**

##### **Minimise the risk of damage**

- K13 how to protect work from damage and the purpose of protection
- K14 why disposal of waste should be carried out safely and how it is achieved

#### **Performance Criteria 5**

##### **Meet the contract specification**

- K15 how methods of work, to meet the specification, are carried out and problems reported
- K16 how maintenance of tools and equipment is carried out

#### **Performance Criteria 6**

##### **Allocated time**

- K17 what the programme is for the work to be carried out in the estimated, allocated time and why deadlines should be kept

#### **Additional information**

##### **Scope/ range related to performance criteria**

#### **Performance Criteria 1**

- 1 interpretation of drawings, specifications, schedules, method statements, risk assessments, workshop manuals, technical service bulletins, parts manuals and manufacturers' information related to the work to be carried out

#### **Performance Criteria 2**

- 2 avoidance of risk by complying with the given information relating to at least five of the following
  - 2.1 methods of work
  - 2.2 safe use of health and safety control equipment
  - 2.3 safe use of access equipment
  - 2.4 safe use, storage and handling of materials
  - 2.5 safe use and storage of tools and equipment
  - 2.6 specific risks to health

#### **Performance Criteria 3**

- 3 selection of resources associated with own work
  - 3.1 materials, components and fixings

3.2 tools and equipment

3.3 consumables

**Performance Criteria 4**

4 protection of the work and its surrounding area from damage

5 minimise damage and maintain a clean work space

6 disposal of waste in accordance with current legislation

**Performance Criteria 5**

7 demonstration of work skills to inspect, check, record, report

8 use and maintain hand tools, specialist tools, portable power tools and ancillary equipment

9 complete the following inspections to given working instructions

9.1 routine checks, daily, weekly

9.2 periodic e.g. monthly, annual, number, hours run

9.3 pre-use, delivery

9.4 post-use, return, off hire

10 record and report results and findings

**Performance Criteria 6**

11 completion of own work within the estimated, allocated time to meet the needs of other occupations and/or client

**Additional information**

**Scope/ range related to knowledge and understanding**

**Disposal of waste**

1 environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance

**Emergencies**

2 operative's response to situations in accordance with organisational authorisation and personal skills when involved with

2.1 fires, spillages, injuries

2.2 emergencies relating to occupational activities

**Hazards**

3 those identified by risk assessment, method of work, manufacturers' technical information, statutory regulations and official guidance

Health and safety control equipment

4 identified by the principles of protection for occupational use, types and purpose of each type, work situations and general work environment

4.1 collective protective measures

4.2 personal protective equipment (PPE)

4.3 respiratory protective equipment (RPE)

4.4 local exhaust ventilation (LEV)

**Information**

5 drawings, specifications, schedules, method statements, risk assessments, workshop manuals, technical service bulletins, parts manuals, manufacturers' information and current regulations associated with the inspection, examination and test of plant and machinery

Legislation and official guidance

6 this relates to the operative's responsibilities regarding potential accidents and health hazards whilst working in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement/storage of materials and by manual handling and mechanical lifting

**Maintenance**

7 operative care of hand tools, specialist tools, portable power tools and ancillary equipment

**Methods of work**

- 8 application of knowledge for safe and healthy work practices, procedures and skills relating to the method/area of work and materials used to:
  - 8.1 identify inspection criteria
  - 8.2 conduct inspections, daily/weekly, periodic (monthly, annual, number and hours run), pre-use and post-use and returned items
  - 8.3 identify the difference between test, inspection and thorough examination
  - 8.4 check the calibration of inspection tools and equipment
  - 8.5 use specialist inspection equipment and test and diagnostic aids
  - 8.6 identify deterioration, damage, excess wear and leaks
  - 8.7 identify non-critical defects
  - 8.8 identify critical defects
  - 8.9 classify the serviceability of plant and machinery
  - 8.10 consider plant and machinery life expectancy
  - 8.11 report findings
  - 8.12 use hand tools, portable power tools, specialist tools and equipment
  - 8.13 work at height
  - 8.14 use access equipment
  - 8.15 complete and maintain records
- 9 team work and communication
- 10 needs of other occupations associated with the inspection of plant and machinery

**Problems**

- 11 those arising from information, resources and methods of work
  - 11.1 own authority to rectify
  - 11.2 organisational reporting procedures

**Programme**

- 12 types of progress charts, timetables and estimated times
- 13 organisational procedures for reporting circumstances which will affect the work programme

**Protect work**

- 14 protect work against damage from general workplace activities, other occupations and adverse weather conditions

**Resources**

- 15 materials, components and equipment relating to types, quantity, quality, sizes and the sustainability of standard and/or specialist:
  - 15.1 consumables
  - 15.2 inspection equipment
  - 15.3 fixings
  - 15.4 hand tools, portable powered tools, specialist tools and equipment
- 16 methods of calculating quantity, length, area and wastage associated with the method/procedure to inspect plant and machinery for operational serviceability

**Security procedures**

- 17 site, workplace, company and operative

Developed by: ConstructionSkills Version: 2

Date approved: August 2014 Indicative review date: August 2019

Validity: Current Status: Original

Originating organisation: ConstructionSkills Original URN: COSPM09

Relevant occupations: Plant Maintenance, Construction and Building Trades

Suite: Construction Plant or Machinery Maintenance; Plant Installations

Key words: Plant inspection; Machinery inspection; Routine; Periodic; Pre-use; Post-use; Maintenance; Serviceability



## COSVR665

### Install, repair or modify construction resources by heating, welding, brazing, soldering and thermal cutting

#### Overview

This standard is about

- 1 interpreting information
- 2 adopting safe and healthy working practices
- 3 selecting materials, components, equipment and consumables
- 4 installing, repairing or modifying construction resources by heating, welding, brazing, soldering and thermal cutting

#### Performance criteria

You must be able to:

- P1 interpret the given information relating to the work and resources to confirm its relevance
- P2 comply with the given, relevant legislation and official guidance to carry out your work and maintain safe and healthy work practices
- P3 select the required quantity and quality of resources for the methods of work
- P4 comply with organisational procedures to minimise the risk of damage to the work and surrounding area
- P5 comply with the given contract information to carry out the work efficiently to the required specification
- P6 complete the work within the allocated time, in accordance with the programme of work

#### Knowledge and understanding

You need to know and understand:

##### Performance Criteria 1

##### Interpretation of information

- K1 the organisational procedures developed to report and rectify inappropriate information and unsuitable resources, and how they are implemented
- K2 the types of information, their source and how they are interpreted
- K3 the organisational procedures to solve problems with the information and why it is important they are followed

##### Performance Criteria 2

##### Safe work practices

- K4 the level of understanding operatives must have of information for relevant, current legislation and official guidance and how it is applied
- K5 the types of fire extinguishers and how and when they are used
- K6 how emergencies should be responded to and who should respond
- K7 the organisational security procedures for tools, equipment and personal belongings
- K8 what the accident reporting procedures are and who is responsible for making the report
- K9 why, when and how health and safety control equipment should be used

##### Performance Criteria 3

##### Selection of resources

- K10 the characteristics, quality, uses, sustainability, limitations and defects associated with the resources and how defects should be rectified
- K11 how the resources should be used and how any problems associated with the resources are reported
- K12 the organisational procedures to select resources, why they have been developed and how they are used
- K13 the hazards associated with the resources and methods of work and how they are overcome

**Performance Criteria 4****Minimise the risk of damage**

K14 how to protect work from damage and the purpose of protection

K15 why disposal of waste should be carried out safely and how it is achieved

**Performance Criteria 5****Meet the contract specification**

K16 how methods of work, to meet the specification, are carried out and problems reported

K17 how maintenance of tools and equipment is carried out

**Performance Criteria 6****Allocated time**

K18 what the programme is for the work to be carried out in the estimated, allocated time and why deadlines should be kept

**Additional information****Scope/ range related to performance criteria****Performance Criteria 1**

1. interpretation of drawings, specifications, schedules, method statements, risk assessments, workshop manuals and manufacturers' information related to the work to be carried out

**Performance Criteria 2**

2. avoidance of risk by complying with the given information relating to at least five of the following

2.1 methods of work

2.2 safe use of health and safety control equipment

2.3 safe use of access equipment

2.4 safe use, storage and handling of materials

2.5 safe use and storage of tools and equipment

2.6 specific risks to health

2.7 safe use, movement and storage of gases

**Performance Criteria 3**

3. selection of resources associated with own work

3.1 materials, components and fixings

3.2 tools and equipment

3.3 consumables

**Performance Criteria 4**

4. protection of the work and its surrounding area from damage

5. minimise damage and maintain a clean work space

6. disposal of waste in accordance with current legislation

**Performance Criteria 5**

7. demonstration of work skills to measure, mark out, fit, heat, prepare, position, secure, join, cut and finish

8. use and maintain hand tools, portable power tools, welding, heating and cutting equipment and ancillaries

9. heat components to given working instructions to achieve at least two of the following:

9.1 free components (thermal shock)

9.2 heat treat

9.3 reduce or remove corrosion

9.4 adjust (localised/spot)

9.5 expansion and contraction fit

10. join ferrous and non-ferrous metals to given working instructions using at least two of the following welding techniques:

10.1 oxygen and fuel gas

- 10.2 manual metal arc
  - 10.3 metal inert gas shielded or metal active gas shielded
  - 10.4 tungsten inert gas shielded
  - 11. join metals to given working instructions by brazing using oxygen and fuel gas
  - 12. join metals by soldering to given working instructions using at least one of the following techniques:
    - 12.1 oxygen and fuel gas
    - 12.2 iron and flux
    - 12.3 electrical soldering iron
  - 13. create at least two of the following joints in metals:
    - 13.1 butt
    - 13.2 lap
    - 13.3 fillet
    - 13.4 corner
  - 14. carry out joint work to given working instructions in at least two of the following positions:
    - 14.1 flat
    - 14.2 vertical / horizontal
    - 14.3 vertical
    - 14.4 overhead
  - 15. cut materials by thermal cutting using at least one of the following:
    - 15.1 oxygen fuel gas arc
    - 15.2 plasma arc
- Performance Criteria 6**
- 16. completion of own work within the estimated, allocated time to meet the needs of other occupations and/or client

**Additional information**

**Scope/ range related to knowledge and understanding**

**Disposal of waste**

- 1 environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance

**Emergencies**

- 2 operative's response to situations in accordance with organisational authorisation and personal skills when involved with
  - 2.1 fires, spillages, injuries
  - 2.2 emergencies relating to occupational activities

**Fire extinguishers**

- 3 water, CO<sub>2</sub>, foam, powder and their uses

**Hazards**

- 4 those identified by risk assessment, method of work, manufacturers' technical information, statutory regulations and official guidance  
Health and safety control equipment
- 5 identified by the principles of protection for occupational use, types and purpose of each type, work situations and general work environment
  - 5.1 collective protective measures
  - 5.2 personal protective equipment (PPE)
  - 5.3 respiratory protective equipment (RPE)
  - 5.4 local exhaust ventilation (LEV)

**Information**

- 6 drawings, specifications, schedules, method statements, risk assessments, manufacturers' information and current regulations associated with heating, welding, brazing, soldering and thermal cutting

**Legislation and official guidance**

- 7 this relates to the operative's responsibilities regarding potential accidents and health hazards whilst working in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement/storage of materials and by manual handling and mechanical lifting

**Maintenance**

- 8 operative care of hand tools, portable power tools, heating, welding and thermal cutting equipment and ancillary equipment

**Methods of work**

- 9 application of knowledge for safe and healthy work practices, procedures and skills relating to the method/area of work and materials used to:
- 9.1 assess requirements for the repair or maintenance of metal by joining, heating and cutting
  - 9.2 validate appropriate ways in which the work should be carried out
  - 9.3 maintain the principles of minimum intervention and reversible alterations
  - 9.4 protect surrounding components
  - 9.5 identify metal properties
  - 9.6 relate equilibrium diagrams to metal types/properties
  - 9.7 purge and vent tanks and containers (gas free certification)
  - 9.8 work with hot materials and components
  - 9.9 identify the advantages and disadvantages of welding processes; oxygen and fuel gas, manual metal arc, metal inert gas or metal active gas and tungsten inert gas shielded
  - 9.10 apply principles and methods of preparing, joining, cutting and heating ferrous and non-ferrous metals (type of joint, material thickness, gaps, measuring, cleaning, position, tacks, pre-treatment, parameters, nozzle, voltage, amperes, wire speed, flow rates, restarts, post-treatment)
  - 9.11 join metals by welding, soldering and brazing
  - 9.12 recognise joint types (butt, lap, fillet, corner)
  - 9.13 inspect joints by non-destructive testing (visual, x-ray and dye penetrates, ultraviolet and ultrasonic) and destructive testing (bend test, tensile, nick break and weld etch)
  - 9.14 finish and dress joints
  - 9.15 cut materials using thermal cutting methods, oxygen fuel gas, plasma arc
  - 9.16 recognise the effects of applying heat to metal (distortion, heat affected zone)
  - 9.17 use and store fuel gases
  - 9.18 recognise and determine when specialist skills and knowledge are required and report accordingly
  - 9.19 use hand tools, portable power tools and equipment
  - 9.20 work at height
  - 9.21 use access equipment
- 10 team work and communication
- 11 needs of other occupations associated with heating, welding, brazing, soldering and thermal cutting

**Problems**

- 12 those arising from information, resources and methods of work
- 12.1 own authority to rectify
  - 12.2 organisational reporting procedures

**Programme**

- 13 types of progress charts, timetables and estimated times
- 14 organisational procedures for reporting circumstances which will affect the work programme

**Protect work**

- 15 protect work against damage from general workplace activities, other occupations and adverse weather conditions

**Resources**

- 16 materials, components and equipment relating to types, quantity, quality, sizes and the sustainability of standard and/or specialist:

- 16.1 jigs and fixings
  - 16.2 consumables, gases, welding rods/wires
  - 16.3 solders and fluxes
  - 16.4 hand tools, portable powered tools, heating, welding and cutting equipment
  - 17 methods of calculating quantity, length, area, volume and wastage associated with the method/procedure to heat, weld, braze, solder and thermal cut construction resources
- Security procedures**
- 18 site, workplace, company and operative

Developed by: ConstructionSkills Version: 2  
 Date approved: December 2012 Indicative review date: December 2017  
 Validity: Current Status: Original  
 Originating organisation: ConstructionSkills Original URN: COSPM11  
 Relevant occupations: Plant Maintenance, Construction and Building Trades  
 Suite: Construction Plant or Machinery Maintenance (Construction)  
 Key words: Plant; Machinery; Soldering; Welding; Heating; Thermal cutting; Brazing; Construction resources

**COSVR666**

**Produce one-off components to restore or maintain the operational functions of plant or machinery**

**Overview**  
 This standard is about:

- 1 interpreting information
- 2 adopting safe and healthy working practices
- 3 selecting materials, components, fixings and equipment
- 4 producing one-off components to restore or maintain the operational functions of plant or machinery

**Performance criteria**  
 You must be able to:

- P1 interpret the given information relating to the work and resources to confirm its relevance
- P2 comply with the given, relevant legislation and official guidance to carry out your work and maintain safe and healthy work practices
- P3 select the required quantity and quality of resources for the methods of work
- P4 comply with organisational procedures to minimise the risk of damage to the work and surrounding area
- P5 comply with the given contract information to carry out the work efficiently to the required specification
- P6 complete the work within the allocated time, in accordance with the programme of work

**Knowledge and understanding**  
 You need to know and understand:

**Performance Criteria 1**  
**Interpretation of information**

- K1 the organisational procedures developed to report and rectify inappropriate information and unsuitable resources, and how they are implemented
- K2 the types of information, their source and how they are interpreted
- K3 the organisational procedures to solve problems with the information and why it is important they are followed

**Performance Criteria 2**

**Safe work practices**

- K4 the level of understanding operatives must have of information for relevant, current legislation and official guidance and how it is applied
- K5 how emergencies should be responded to and who should respond
- K6 the organisational security procedures for tools, equipment and personal belongings
- K7 what the accident reporting procedures are and who is responsible for making the report
- K8 why, when and how health and safety control equipment should be used

**Performance Criteria 3****Selection of resources**

- K9 the characteristics, quality, uses, sustainability, limitations and defects associated with the resources and how defects should be rectified
- K10 how the resources should be used and how any problems associated with the resources are reported
- K11 the organisational procedures to select resources, why they have been developed and how they are used
- K12 the hazards associated with the resources and methods of work and how they are overcome

**Performance Criteria 4****Minimise the risk of damage**

- K13 how to protect work from damage and the purpose of protection
- K14 why disposal of waste should be carried out safely and how it is achieved

**Performance Criteria 5****Meet the contract specification**

- K15 how methods of work, to meet the specification, are carried out and problems reported
- K16 how maintenance of tools and equipment is carried out

**Performance Criteria 6****Allocated time**

- K17 what the programme is for the work to be carried out in the estimated, allocated time and why deadlines should be kept

**Additional information****Scope/ range related to performance criteria****Performance Criteria 1**

- 1 interpretation of drawings, specifications, schedules, method statements, risk assessments, workshop manuals, parts manuals and manufacturers' information related to the work to be carried out

**Performance Criteria 2**

- 2 avoidance of risk by complying with the given information relating to at least five of the following
  - 2.1 methods of work
  - 2.2 safe use of health and safety control equipment
  - 2.3 safe use of access equipment
  - 2.4 safe use, storage and handling of materials
  - 2.5 safe use and storage of tools and equipment
  - 2.6 specific risks to health

**Performance Criteria 3**

- 3 selection of resources associated with own work
  - 3.1 materials, components, fixings and fittings
  - 3.2 tools and equipment
  - 3.3 consumables

**Performance Criteria 4**

- 4 protection of the work and its surrounding area from damage
- 5 minimise damage and maintain a clean work space
- 6 disposal of waste in accordance with current legislation

**Performance Criteria 5**

- 7 demonstration of work skills to measure, mark out, disassemble, cut, drill, file, shape, join, assemble, fit, fix and secure
  - 8 use and maintain hand tools, portable power tools, power tools and ancillary equipment
    - 8.1 produce at least two one-off components by modification and/or replacement to given working instructions (e.g. for emergency or temporary repair (safety or operational), to counter operational time delays, when manufacturers component(s) are unavailable or obsolete, when it is cost effective or specialist tools)
  - 9 complete functional, operational and safety checks
  - 10 complete and maintain records
- Performance Criteria 6**
- 11 completion of own work within the estimated, allocated time to meet the needs of other occupations and/or client

**Additional information**

**Scope/ range related to knowledge and understanding**

**Disposal of waste**

- 1 environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance

**Emergencies**

- 2 operative's response to situations in accordance with organisational authorisation and personal skills when involved with
  - 2.1 fires, spillages, injuries
  - 2.2 emergencies relating to occupational activities

**Hazards**

- 3 those identified by risk assessment, method of work, manufacturers' technical information, statutory regulations and official guidance  
Health and safety control equipment
- 4 identified by the principles of protection for occupational use, types and purpose of each type, work situations and general work environment
  - 4.1 collective protective measures
  - 4.2 personal protective equipment (PPE)
  - 4.3 respiratory protective equipment (RPE)
  - 4.4 local exhaust ventilation (LEV)

**Information**

- 5 drawings, specifications, schedules, method statements, risk assessments, workshop manuals, parts manuals, manufacturers' information and current regulations governing and associated with plant and machinery maintenance  
Legislation and official guidance
- 6 this relates to the operative's responsibilities regarding potential accidents and health hazards whilst working in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement/storage of materials and by manual handling and mechanical lifting

**Maintenance**

- 7 operative care of hand tools and portable power tools and ancillary equipment

**Methods of work**

- 8 application of knowledge for safe and healthy work practices, procedures and skills relating to the method/area of work and materials used to:
  - 8.1 assess requirements for repair or maintenance
  - 8.2 validate appropriate ways in which the work should be carried out
  - 8.3 maintain the principles of minimum intervention and reversible alteration

- 8.4 determine the durability of the one off component, temporary or permanent
- 8.5 transfer dimensions and measurements (hole location and spacing)
- 8.6 produce templates
- 8.7 work from patterns, representative work pieces and components
- 8.8 produce one-off components for emergency and temporary repair (safety and operational), to counter operational time delays, when it is cost effective and to make specialist tools
- 8.9 apply manufacturers' criteria for the production of specialist tools
- 8.10 determine the characteristics of materials and differing mating surfaces (cast iron, steel, alloy, plastic)
- 8.11 select and modify existing components by shaping, cutting, drilling, filing, threading (internal and external), fabrication, welding and machining
- 8.12 select methods of securing one off components, bolts, screws, clamps, rivets, joints (thermal and adhesive) and specialist retaining devices (circlips, cotter pins, woodruff keys)
- 8.13 recover and store reusable materials and components
- 8.14 use hand tools, portable power tools, power tools and equipment
- 8.15 work at height
- 8.16 use access equipment
- 8.17 complete and maintain records

9 team work and communication

10 needs of other occupations associated with the production of one-off components to restore and maintain the operational functions of plant and machinery

**Problems**

11 those arising from information, resources and methods of work

11.1 own authority to rectify

11.2 organisational reporting procedures

**Programme**

12 types of progress charts, timetables and estimated times

13 organisational procedures for reporting circumstances which will affect the work programme  
Protect work

14 protect work against damage from general workplace activities, other occupations and adverse weather conditions

**Resources**

15 materials, components and equipment relating to types, quantity, quality, sizes and the sustainability of standard and/or specialist:

15.1 plant and machinery components

15.2 fixings and fittings

15.3 consumables

15.4 hand tools, portable power tools, powered tools and equipment

16 methods of calculating quantity, length, area, volume and wastage associated with the method/procedure to produce one-off components to restore or maintain the operational function of plant and machinery

**Security procedures**

17 site, workplace, company and operative

Developed by: ConstructionSkills Version: 2

Date approved: December 2012 Indicative review date: December 2017

Validity: Current Status: Original

Originating organisation: ConstructionSkills Original URN: COSPM12

Relevant occupations: Construction and Building Trades

Suite: Construction Plant or Machinery Maintenance

Key words: Plant; Machinery; Components; Produce one-off components; Operational functions; Maintenance



**COSVR667**

**Install plant or machinery for operational activities**

**Overview**

This standard is about

- 1 interpreting information
- 2 adopting safe and healthy working practices
- 3 selecting materials, components, consumables and equipment
- 4 installing plant or machinery for operational activities

**Performance criteria**

You must be able to:

- P1 interpret the given information relating to the work and resources to confirm its relevance
- P2 comply with the given, relevant legislation and official guidance to carry out your work and maintain safe and healthy work practices
- P3 select the required quantity and quality of resources for the methods of work
- P4 comply with organisational procedures to minimise the risk of damage to the work and surrounding area
- P5 comply with the given contract information to carry out the work efficiently to the required specification
- P6 complete the work within the allocated time, in accordance with the programme of work

**Knowledge and understanding**

You need to know and understand:

**Performance Criteria 1**

**Interpretation of information**

- K1 the organisational procedures developed to report and rectify inappropriate information and unsuitable resources, and how they are implemented
- K2 the types of information, their source and how they are interpreted
- K3 the organisational procedures to solve problems with the information and why it is important they are followed

**Performance Criteria 2**

**Safe work practices**

- K4 the level of understanding operatives must have of information for relevant, current legislation and official guidance and how it is applied
- K5 how emergencies should be responded to and who should respond
- K6 the organisational security procedures for tools, equipment and personal belongings
- K7 what the accident reporting procedures are and who is responsible for making the report
- K8 why, when and how health and safety control equipment should be used

**Performance Criteria 3**

**Selection of resources**

- K9 the characteristics, quality, uses, sustainability, limitations and defects associated with the resources and how defects should be rectified
- K10 how the resources should be used and how any problems associated with the resources are reported
- K11 the organisational procedures to select resources, why they have been developed and how they are used
- K12 the hazards associated with the resources and methods of work and how they are overcome

**Performance Criteria 4**

**Minimise the risk of damage**

- K13 how to protect work from damage and the purpose of protection
- K14 why disposal of waste should be carried out safely and how it is achieved

**Performance Criteria 5**

**Meet the contract specification**

K15 how methods of work, to meet the specification, are carried out and problems reported

K16 how maintenance of tools and equipment is carried out

**Performance Criteria 6**

**Allocated time**

K17 what the programme is for the work to be carried out in the estimated, allocated time and why deadlines should be kept

**Additional information**

**Scope/ range related to performance criteria**

**Performance Criteria 1**

1 interpretation of drawings, specifications, schedules, method statements, risk assessments, installation manuals and manufacturers' information related to the work to be carried out

**Performance Criteria 2**

- 2 avoidance of risk by complying with the given information relating to at least five of the following
- 2.1 methods of work
  - 2.2 safe use of health and safety control equipment
  - 2.3 safe use of access equipment
  - 2.4 safe use, storage and handling of materials
  - 2.5 safe use and storage of tools and equipment
  - 2.6 specific risks to health

**Performance Criteria 3**

- 3 selection of resources associated with own work
- 3.1 materials, components and fixings
  - 3.2 tools and equipment
  - 3.3 consumables

**Performance Criteria 4**

- 4 protection of the work and its surrounding area from damage
- 5 minimise damage and maintain a clean work space
- 6 disposal of waste in accordance with current legislation

**Performance Criteria 5**

- 7 demonstration of work skills to measure, mark, align, lay, level, plumb, adjust, fit, connect, fix, fasten and secure
- 8 use and maintain hand tools, portable power tools, measuring instruments and ancillary equipment
- 9 install plant or machinery to given working instructions for at least one of the following
  - 9.1 crane (mobile or ringer)
  - 9.2 tower crane
  - 9.3 hoist (passenger, goods or building maintenance units)
  - 9.4 rig (demolition, piling or drilling)
  - 9.5 excavation or vacuum plant or machinery
  - 9.6 batching, mixing or blending plant
  - 9.7 crushing or screening plant
  - 9.8 power generation equipment
  - 9.9 pump
  - 9.10 climate management machinery
  - 9.11 concrete placing boom
- 10 complete functional, operational and safety checks
- 11 complete and maintain records

**Performance Criteria 6**

12 completion of own work within the estimated, allocated time to meet the needs of other occupations and/or client

**Additional information****Scope/ range related to knowledge and understanding****Disposal of waste**

- 1 environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance

**Emergencies**

- 2 operative's response to situations in accordance with organisational authorisation and personal skills when involved with
  - 2.1 fires, spillages, injuries
  - 2.2 emergencies relating to occupational activities

**Hazards**

- 3 those identified by risk assessment, method of work, manufacturers' technical information, statutory regulations and official guidance

**Health and safety control equipment**

- 4 identified by the principles of protection for occupational use, types and purpose of each type, work situations and general work environment
  - 4.1 collective protective measures
  - 4.2 personal protective equipment (PPE)
  - 4.3 respiratory protective equipment (RPE)
  - 4.4 local exhaust ventilation (LEV)

**Information**

- 5 drawings, specifications, schedules, method statements, risk assessments, installation manuals, manufacturers' information and current regulations associated with the installation of plant and machinery

**Legislation and official guidance**

- 6 this relates to the operative's responsibilities regarding potential accidents and health hazards whilst working in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement/storage of materials and by manual handling and mechanical lifting

**Maintenance**

- 7 operative care of hand tools and portable power tools, measuring instruments and ancillary equipment

**Methods of work**

- 8 application of knowledge for safe and healthy work practices, procedures and skills relating to the method/area of work and materials used to:
  - 8.1 install plant and machinery; mobile and ringer cranes, tower cranes, passenger and goods hoists, piling and drilling rigs, excavation plant or machinery, batching plants, crushing and screening plants, power generation equipment, pumps, climate management machines
  - 8.2 assess suitability of conditions for installation requirements (site layout, location, availability of space, levels, prevailing weather conditions)
  - 8.3 operate and control lifting equipment and lifting aids
  - 8.4 confirm the integrity of lifting accessories
  - 8.5 consider the resources required for the installation of plant and machinery
  - 8.6 confirm parts, components, attachments, accessories are available to complete the installation
  - 8.7 secure plant and machinery parts and components for movement and lifting into position

- 8.8 align, attach and secure plant and machinery parts and components (tied in, pinned, clamped, bolted and screwed)
  - 8.9 fixing plant or machinery to load bearing structures
  - 8.10 install and test anchors and ties
  - 8.11 route, lay, connect and secure cables, pipes and hoses
  - 8.12 connect power supplies
  - 8.13 make adjustments to ensure optimum operational function
  - 8.14 liaise with client, customer or their representatives
  - 8.15 deal with damages and defects that can occur during installation, misaligned components, cracked casings and housings, leaks, scoring and marking of parts and components and breakages
  - 8.16 confirm installation functionality meets quality expectations
  - 8.17 complete functional operational and safety checks
  - 8.18 use hand tools, portable power tools and equipment
  - 8.19 work at height
  - 8.20 use access equipment
  - 8.21 complete and maintain records
- 9 team work and communication
- 10 needs of other occupations associated with the installation of plant or machinery

#### **Problems**

- 11 those arising from information, resources and methods of work
  - 11.1 own authority to rectify
  - 11.2 organisational reporting procedures

#### **Programme**

- 12 types of progress charts, timetables and estimated times
- 13 organisational procedures for reporting circumstances which will affect the work programme

#### **Protect work**

- 14 protect work against damage from general workplace activities, other occupations and adverse weather conditions

#### **Resources**

- 15 materials, components and equipment relating to types, quantity, quality, sizes and the sustainability of standard and/or specialist:
  - 15.1 lifting accessories
  - 15.2 fastening, ties, anchors and fixings
  - 15.3 consumables
  - 15.4 measuring and levelling equipment
  - 15.5 hand tools, portable powered tools and equipment
- 16 methods of calculating quantity, length, volume, area and wastage associated with the method/procedure to install plant and machinery for operational activities

#### **Security procedures**

site, workplace, company and operative

Developed by: ConstructionSkills Version: 2

Date approved: December 2012 Indicative review date: December 2017

Validity: Current Status: Original

Originating organisation: ConstructionSkills Original URN: COSPM14

Relevant occupations: Construction and Building Trades

Suite: Construction Plant or Machinery Maintenance; Plant Installation

Key words: Plant; Machinery; Install; Tied in; Pinned; Clamped; Bolted; Screwed; Maintenance

## COSVR668

### Carry out specific tests on plant or machinery to determine operational serviceability

#### Overview

This standard is about:

- 1 interpreting information
- 2 adopting safe and healthy working practices
- 3 selecting materials, components, consumables and equipment
- 4 carrying out specific tests on plant or machinery to determine operational serviceability

#### Performance criteria

You must be able to:

- P1 interpret the given information relating to the work and resources to confirm its relevance
- P2 comply with the given, relevant legislation and official guidance to carry out your work and maintain safe and healthy work practices
- P3 select the required quantity and quality of resources for the methods of work
- P4 comply with organisational procedures to minimise the risk of damage to the work and surrounding area
- P5 comply with the given contract information to carry out the work efficiently to the required specification
- P6 complete the work within the allocated time, in accordance with the programme of work

#### Knowledge and understanding

You need to know and understand:

##### Performance Criteria 1

##### Interpretation of information

- K1 the organisational procedures developed to report and rectify inappropriate information and unsuitable resources, and how they are implemented
- K2 the types of information, their source and how they are interpreted
- K3 the organisational procedures to solve problems with the information and why it is important they are followed

##### Performance Criteria 2

##### Safe work practices

- K4 the level of understanding operatives must have of information for relevant, current legislation and official guidance and how it is applied
- K5 how emergencies should be responded to and who should respond
- K6 the organisational security procedures for tools, equipment and personal belongings
- K7 what the accident reporting procedures are and who is responsible for making the report
- K8 why, when and how health and safety control equipment should be used

##### Performance Criteria 3

##### Selection of resources

- K9 the characteristics, quality, uses, sustainability, limitations and defects associated with the resources and how defects should be rectified
- K10 how the resources should be used and how any problems associated with the resources are reported

- K11 the organisational procedures to select resources, why they have been developed and how they are used
- K12 the hazards associated with the resources and methods of work and how they are overcome

#### **Performance Criteria 4**

##### **Minimise the risk of damage**

- K13 how to protect work from damage and the purpose of protection
- K14 why disposal of waste should be carried out safely and how it is achieved

#### **Performance Criteria 5**

##### **Meet the contract specification**

- K15 how methods of work, to meet the specification, are carried out and problems reported
- K16 how maintenance of tools and equipment is carried out

#### **Performance Criteria 6**

##### **Allocated time**

- K17 what the programme is for the work to be carried out in the estimated, allocated time and why deadlines should be kept

#### **Additional information**

##### **Scope/ range related to performance criteria**

##### **Performance Criteria 1**

- 1 interpretation of drawings, specifications, schedules, method statements, risk assessments, workshop manuals, technical service bulletins, parts manuals and manufacturers' information related to the work to be carried out

##### **Performance Criteria 2**

- 2 avoidance of risk by complying with the given information relating to at least five of the following
- 2.1 methods of work
  - 2.2 safe use of health and safety control equipment
  - 2.3 safe use of access equipment
  - 2.4 safe use, storage and handling of materials
  - 2.5 safe use and storage of, tools and equipment
  - 2.6 specific risks to health

##### **Performance Criteria 3**

- 3 selection of resources associated with own work
- 3.1 materials, components and fixings / fittings
  - 3.2 tools and equipment
  - 3.3 consumables

##### **Performance Criteria 4**

- 4 protection of the work and its surrounding area from damage
- 5 minimise damage and maintain a clean work space
- 6 disposal of waste in accordance with current legislation

##### **Performance Criteria 5**

- 7 demonstration of work skills to measure, test and compare
- 8 use and maintain hand tools, portable power tools, specialist test equipment and ancillary equipment
- 9 complete specific tests to given working instructions on at least four of the following
- 9.1 electric systems

- 9.2 cooling systems
- 9.3 lubrication systems
- 9.4 emission control
- 9.5 hydraulic systems
- 9.6 hydrostatic drive
- 9.7 transmission systems
- 9.8 pneumatic systems
- 9.9 braking systems
- 9.10 vibration management
- 9.11 steering/suspension systems
- 9.12 generator output control
- 9.13 electronic management
- 9.14 powered access equipment
- 9.15 material handling equipment
- 9.16 water pumps
- 9.17 craneage
- 9.18 lifting equipment
- 9.19 load testing (cranes, hoists, MEWPs, MHE)

10 complete tests to given working instructions for the following

- 10.1 statutory requirement
- 10.2 compliance with policy and procedures
- 10.3 operational efficiency (speeds, flow rates, consumption, emissions, outputs)
- 10.4 complete functional, operational and safety checks

11 complete and maintain records

**Performance Criteria 6**

12 completion of own work within the estimated, allocated time to meet the needs of other occupations and/or client

**Additional information**

**Scope/ range related to knowledge and understanding**

**Disposal of waste**

- 1 environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance

**Emergencies**

- 2 operative's response to situations in accordance with organisational authorisation and personal skills when involved with
  - 2.1 fires, spillages, injuries
  - 2.2 emergencies relating to occupational activities

**Hazards**

- 3 those identified by risk assessment, method of work, manufacturers' technical information, statutory regulations and official guidance

**Health and safety control equipment**

- 4 identified by the principles of protection for occupational use, types and purpose of each type, work situations and general work environment
  - 4.1 collective protective measures
  - 4.2 personal protective equipment (PPE)
  - 4.3 respiratory protective equipment (RPE)
  - 4.4 local exhaust ventilation (LEV)

**Information**

- 5 drawings, specifications, schedules, method statements, risk assessments, workshop manuals, technical service bulletins, parts manuals, manufacturers'

information and current regulations associated with the specific testing of plant or machinery

#### **Legislation and official guidance**

- 6 this relates to the operative's responsibilities regarding potential accidents and health hazards whilst working in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement/storage of materials and by manual handling and mechanical lifting

#### **Maintenance**

- 7 operative care of hand tools and portable power tools, specialist test equipment and ancillary equipment

#### **Methods of work**

- 8 application of knowledge for safe and healthy work practices, procedures and skills relating to the method/area of work and materials used to:
- 8.1 isolate plant, machinery and components
  - 8.2 confirm calibration of test equipment
  - 8.3 test electric systems, cooling systems, lubrication systems, hydraulic systems, hydrostatic drive, transmission systems, pneumatic systems, braking systems, vibration management, steering/suspension systems, generator output control, electronic management, powered access equipment, material handling equipment, water pumps, craneage, lifting equipment and load testing (cranes, hoists, MEWPs MHE)
  - 8.4 conduct tests for statutory requirements, compliance with policy and procedures and operational efficiency (speeds, flow rates, consumption, emissions, output)
  - 8.5 collect measurements, readings, input and output data, working cycle times and tolerances
  - 8.6 identify and assess the relevance of inconsistent data
  - 8.7 make allowances for situation, environment, atmospheric conditions
  - 8.8 operate pressure gauge, flow gauge, multi-meter, portable appliance testing equipment, computer aided diagnostic software, test lamp, compression measurement equipment and timing devices
  - 8.9 analyse information collected; make comparisons with other plant and machinery, consider previous knowledge, apply sensory abilities (visual, audible, touch and smell) consult manufacturers' information and results of other tests
  - 8.10 compare and confirm test outcome with given specifications
  - 8.11 report findings
  - 8.12 use hand tools, portable power tools and equipment
  - 8.13 work at height
  - 8.14 use access equipment
  - 8.15 complete and maintain records
- 9 team work and communication
- 10 needs of other occupations associated with conducting specific tests on plant and machinery to determine operational serviceability

#### **Problems**

- 11 those arising from information, resources and methods of work
- 11.1 own authority to rectify
  - 11.2 organisational reporting procedures

#### **Programme**

- 12 types of progress charts, timetables and estimated times



13 organisational procedures for reporting circumstances which will affect the work programme

**Protect work**

14 protect work against damage from general workplace activities, other occupations and adverse weather conditions

**Resources**

15 materials, components and equipment relating to types, quantity, quality, sizes and the sustainability of standard and/or specialist:

15.1 consumables

15.2 fixings and fittings

15.3 hand tools, portable power tools, specialist test equipment and ancillary equipment

16 methods of calculating quantity, length, volume, area and wastage associated with the method/procedure to conduct specific tests on plant or machinery to determine operational serviceability

**Security procedures**

17 site, workplace, company and operative

Developed by: ConstructionSkills Version: 3

Date approved: June 2015 Indicative review date: June 2020

Validity: Current Status: Original

Originating organisation: ConstructionSkills Original URN: COSPM15

Relevant occupations: Construction and Building Trades

Suite: Construction Plant or Machinery Maintenance (Construction)

Key words: Plant; Machinery; Tests; Statutory requirement; Compliance; Operational efficiency; Functional; Specific

**COSVR669**

**Configure plant or machinery for specific operational activities**

**Overview**

This standard is about:

- 1 interpreting information
- 2 adopting safe and healthy working practices
- 3 selecting materials, components, consumables and equipment
- 4 configuring plant or machinery relevant to the operational activity being undertaken

**Performance criteria**

You must be able to:

- P1 interpret the given information relating to the work and resources to confirm its relevance
- P2 comply with the given, relevant legislation and official guidance to carry out your work and maintain safe and healthy work practices
- P3 select the required quantity and quality of resources for the methods of work
- P4 comply with organisational procedures to minimise the risk of damage to the work and surrounding area
- P5 comply with the given contract information to carry out the work efficiently to the required specification
- P6 complete the work within the allocated time, in accordance with the programme of work

**Knowledge and understanding**

You need to know and understand:

**Performance Criteria 1**

**Interpretation of information**

- K1 the organisational procedures developed to report and rectify inappropriate information and unsuitable resources, and how they are implemented
- K2 the types of information, their source and how they are interpreted
- K3 the organisational procedures to solve problems with the information and why it is important they are followed

**Performance Criteria 2****Safe work practices**

- K4 the level of understanding operatives must have of information for relevant, current legislation and official guidance and how it is applied
- K5 how emergencies should be responded to and who should respond
- K6 the organisational security procedures for tools, equipment and personal belongings
- K7 what the accident reporting procedures are and who is responsible for making the report
- K8 why, when and how health and safety control equipment should be used

**Performance Criteria 3****Selection of resources**

- K9 the characteristics, quality, uses, sustainability, limitations and defects associated with the resources and how defects should be rectified
- K10 how the resources should be used and how any problems associated with the resources are reported
- K11 the organisational procedures to select resources, why they have been developed and how they are used
- K12 the hazards associated with the resources and methods of work and how they are overcome

**Performance Criteria 4****Minimise the risk of damage**

- K13 how to protect work from damage and the purpose of protection
- K14 why disposal of waste should be carried out safely and how it is achieved

**Performance Criteria 5****Meet the contract specification**

- K15 how methods of work, to meet the specification, are carried out and problems reported
- K16 how maintenance of tools and equipment is carried out

**Performance Criteria 6****Allocated time**

- K17 what the programme is for the work to be carried out in the estimated, allocated time and why deadlines should be kept

**Additional information****Scope/ range related to performance criteria****Performance Criteria 1**

- 1 interpretation of drawings, specifications, schedules, method statements, risk assessments, workshop manuals, technical service bulletins, parts manuals and manufacturers' information related to the work to be carried out

**Performance Criteria 2**

- 2 avoidance of risk by complying with the given information relating to at least four of the following
  - 2.1 methods of work
  - 2.2 safe use of health and safety control equipment
  - 2.3 safe use of access equipment
  - 2.4 safe use and storage of materials, tools and equipment
  - 2.5 specific risks to health

**Performance Criteria 3**

- 3 selection of resources associated with own work
  - 3.1 materials, components and fixings

3.2 tools and equipment

3.3 consumables

**Performance Criteria 4**

4 protection of the work and its surrounding area from damage

5 minimise damage and maintain a clean work space

6 disposal of waste in accordance with current legislation

**Performance Criteria 5**

7 demonstration of work skills to measure, mark, align, fit, adjust, fix, fasten and secure

8 use and maintain hand tools, portable power tools and ancillary equipment

9 configure plant or machinery for specific operational activities to given working instructions with at least two of the following

9.1 attachments

9.2 ancillaries

9.3 fire prevention (spark arrestors)

9.4 structural support (anchors and ties)

9.5 safety (restricted movement, passage or access, warning alarms, notices, lights or governors)

9.6 contaminant reduction (noise, gases, fluids)

9.7 carriage of ancillaries or additional equipment

9.8 rail and trackside

9.9 cutting equipment (blade or teeth angles and aspects)

9.10 additions (publicity boards, notices, lights)

9.11 machine control (laser measurement or guidance, global positioning system)

9.12 productivity measurement (weigh load sensors, compaction sensors)

10 complete functional, operational and safety checks

11 complete and maintain records

**Performance Criteria 6**

12 completion of own work within the estimated, allocated time to meet the needs of other occupations and/or client

**Additional information**

**Scope/ range related to knowledge and understanding**

**Disposal of waste**

1 environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance

**Emergencies**

2 operative's response to situations in accordance with organisational authorisation and personal skills when involved with

2.1 fires, spillages, injuries

2.2 emergencies relating to occupational activities

**Hazards**

3 those identified by risk assessment, method of work, manufacturers' technical information, statutory regulations and official guidance

Health and safety control equipment

4 identified by the principles of protection for occupational use, types and purpose of each type, work situations and general work environment

4.1 collective protective measures

4.2 personal protective equipment (PPE)

4.3 respiratory protective equipment (RPE)

4.4 local exhaust ventilation (LEV)

**Information**

- 5 drawings, specifications, schedules, method statements, risk assessments, workshop manuals, technical service bulletins, parts manuals, manufacturers' information and current regulations associated with the configuration of plant and machinery  
Legislation and official guidance
- 6 this relates to the operative's responsibilities regarding potential accidents and health hazards whilst working in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement/storage of materials and by manual handling and mechanical lifting

#### **Maintenance**

- 7 operative care of hand tools and portable power tools and ancillary equipment

#### **Methods of work**

- 8 application of knowledge for safe and healthy work practices, procedures and skills relating to the method/area of work and materials used to:
  - 8.1 assess requirements for configuration
  - 8.2 validate appropriate ways in which the work should be carried out
  - 8.3 configure plant or machinery with the following; attachments, ancillaries, fire prevention (spark arrestors), structural support (anchors and ties), safety (restricted movement, passage or access, warning alarms, notices, lights or governors), contaminant reduction (noise, gases, fluids), carriage of ancillaries or additional equipment, rail and trackside work, cutting equipment (blade or teeth angles, coatings, dressings and aspects), additions (publicity boards, notices, lights), machine control (laser measurement and guidance, global positioning system), productivity measurement (weigh load sensors, compaction sensors)
  - 8.4 ensure the required parameters are achieved for the specific operational activity
  - 8.5 liaise with operators, customers, clients and their representatives
  - 8.6 use hand tools, portable power tools and ancillary equipment
  - 8.7 work at height
  - 8.8 use access equipment
  - 8.9 complete and maintain records
- 9 team work and communication
- 10 needs of other occupations associated with the configuration of plant or machinery for specific operational activities

#### **Problems**

- 11 those arising from information, resources and methods of work
  - 11.1 own authority to rectify
  - 11.2 organisational reporting procedures

#### **Programme**

- 12 types of progress charts, timetables and estimated times
- 13 organisational procedures for reporting circumstances which will affect the work programme

#### **Protect work**

- 14 protect work against damage from general workplace activities, other occupations and adverse weather conditions

#### **Resources**

- 15 materials, components and equipment relating to types, quantity, quality, sizes and the sustainability of standard and/or specialist:
  - 15.1 consumables
  - 15.2 fixings and fittings
  - 15.3 hand tools, portable powered tools and ancillary equipment
- 16 methods of calculating quantity, length, volume, area and wastage associated with the method/procedure to configure plant or machinery for specific operational activities

#### **Security procedures**

- 17 site, workplace, company and operative

<p>Developed by: ConstructionSkills Version: 2          Date approved: December 2012 Indicative review date: December 2017          Validity: Current Status: Original          Originating organisation: ConstructionSkills Original URN: COSPM16          Relevant occupations: Construction and Building Trades          Suite: Construction Plant or Machinery Maintenance; Plant Installations          Key words: Plant; Machinery; Configure; Specific operational activities; Maintenance</p>
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<p><b>COSVR672</b></p> <p><b>Hand over plant or machinery to the control of others</b></p>
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**Overview**  
 This standard is about

- 1 interpreting information
- 2 adopting safe and healthy working practices
- 3 selecting materials, components, consumables and equipment
- 4 explaining and demonstrating the use of plant or machinery when handing over control to others

**Performance criteria**  
 You must be able to:

P1 interpret the given information relating to the work and resources to confirm its relevance  
 P2 comply with the given, relevant legislation and official guidance to carry out your work and maintain safe and healthy work practices  
 P3 select the required quantity and quality of resources for the methods of work  
 P4 comply with organisational procedures to minimise the risk of damage to the work and surrounding area  
 P5 comply with the given contract information to carry out the work efficiently to the required specification  
 P6 complete the work within the allocated time, in accordance with the programme of work

**Knowledge and understanding**  
 You need to know and understand:

**Performance Criteria 1**  
**Interpretation of information**

K1 the organisational procedures developed to report and rectify inappropriate information and unsuitable resources, and how they are implemented  
 K2 the types of information, their source and how they are interpreted  
 K3 the organisational procedures to solve problems with the information and why it is important they are followed

**Performance Criteria 2**  
**Safe work practices**

K4 the level of understanding operatives must have of information for relevant, current legislation and official guidance and how it is applied  
 K5 how emergencies should be responded to and who should respond  
 K6 the organisational security procedures for tools, equipment and personal belongings  
 K7 what the accident reporting procedures are and who is responsible for making the report  
 K8 why, when and how health and safety control equipment should be used

**Performance Criteria 3**  
**Selection of resources**

K9 the characteristics, quality, uses, sustainability, limitations and defects associated with the resources and how defects should be rectified

- K10 how the resources should be used and how any problems associated with the resources are reported  
K11 the organisational procedures to select resources, why they have been developed and how they are used  
K12 the hazards associated with the resources and methods of work and how they are overcome

**Performance Criteria 4**

**Minimise the risk of damage**

- K13 how to protect work from damage and the purpose of protection  
K14 why disposal of waste should be carried out safely and how it is achieved

**Performance Criteria 5**

**Meet the contract specification**

- K15 how methods of work, to meet the specification, are carried out and problems reported  
K16 how maintenance of tools and equipment is carried out

**Performance Criteria 6**

**Allocated time**

- K17 What the programme is for the work to be carried out in the estimated, allocated time and why deadlines should be kept

**Additional information**

**Scope/ range related to performance criteria**

**Performance Criteria 1**

- 1 interpretation of drawings, specifications, schedules, method statements, risk assessments and manufacturers' information related to the work to be carried out

**Performance Criteria 2**

- 2 avoidance of risk by complying with the given information relating to at least five of the following:  
2.1 methods of work  
2.2 safe use of health and safety control equipment  
2.3 safe use of access equipment  
2.4 safe use, storage and handling of materials  
2.5 safe use and storage of tools and equipment  
2.6 specific risks to health

**Performance Criteria 3**

- 3 selection of resources associated with own work  
3.1 tools and equipment  
3.2 consumables

**Performance Criteria 4**

- 4 protection of the work and its surrounding area from damage  
5 minimise damage and maintain a clean work space  
6 disposal of waste in accordance with current legislation

**Performance Criteria 5**

- 7 demonstration of work skills to liaise, explain, present, demonstrate, instruct, confirm, communicate and assess  
8 use and maintain hand tools, portable power tools and ancillary equipment  
9 explain and demonstrate the operation of plant or machinery to given working instructions in order to hand over control to others  
10 complete and maintain records

**Performance Criteria 6**

- 11 completion of own work within the estimated, allocated time to meet the needs of other occupations and/or client

**Additional information**

**Scope/ range related to knowledge and understanding**

**Disposal of waste**

- 1 environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance

**Emergencies**

- 2 operative's response to situations in accordance with organisational authorisation and personal skills when involved with
  - 2.1 fires, spillages, injuries
  - 2.2 emergencies relating to occupational activities
- 3 Hazards
- 3 those identified by risk assessment, method of work, manufacturers' technical information, statutory regulations and official guidance

**Health and safety control equipment**

- 4 identified by the principles of protection for occupational use, types and purpose of each type, work situations and general work environment
  - 4.1 collective protective measures
  - 4.2 personal protective equipment (PPE)
  - 4.3 respiratory protective equipment (RPE)
  - 4.4 local exhaust ventilation (LEV)

**Information**

- 5 drawings, specifications, schedules, method statements, risk assessments, manufacturers' information and current regulations associated with the operation and use of plant and machinery
- 6 Legislation and official guidance
- 6 this relates to the operative's responsibilities regarding potential accidents and health hazards whilst working in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement/storage of materials and by manual handling and mechanical lifting

**Maintenance**

- 7 operative care of hand tools and portable power tools and ancillary equipment

**Methods of work**

- 8 application of knowledge for safe and healthy work practices, procedures and skills relating to the method/area of work and materials used to:
  - 8.1 liaise with customers, hirers, colleagues and end users
  - 8.2 clearly define the moment of transferred responsibility
  - 8.3 assess and confirm the condition of plant and machinery
  - 8.4 confirm the suitability of the handover environment
  - 8.5 prepare plant or machinery for explanation and demonstration
  - 8.6 instruct users and operators in the operation, safety and emergency requirements
  - 8.7 demonstrate the operation of plant and machinery
  - 8.8 explain statutory requirements, inspection, maintenance, report of thorough examination, tests and certification
  - 8.9 present and explain documentation: safety literature, operating instructions and operator forms
  - 8.10 complete and register the handover: forms, checklists, confirmation, acceptance and receipt forms
  - 8.11 explain the availability of technical support, guidance, information, advice, breakdown, call out, guarantees, warranties and replacement
  - 8.12 communicate in a way that maintains goodwill
  - 8.13 use hand tools, portable power tools and equipment
  - 8.14 work at height
  - 8.15 use access equipment
  - 8.16 complete and maintain records
- 9 team work and communication

10 needs of other occupations associated with the handover of plant and machinery to others

**Problems**

- 11 those arising from information, resources and methods of work
  - 11.1 own authority to rectify
  - 11.2 organisational reporting procedures

**Programme**

- 12 types of progress charts, timetables and estimated times
- 13 organisational procedures for reporting circumstances which will affect the work programme

**Protect work**

- 14 protect work against damage from general workplace activities, other occupations and adverse weather conditions

**Resources**

- 15 materials and equipment relating to types, quantity, quality, sizes and the sustainability of standard and/or specialist:
  - 15.1 consumables
  - 15.2 literature, forms and documents
  - 15.3 hand tools, portable powered tools and equipment
- 16 methods of calculating quantity, length, area and wastage associated with the method/procedure to handover plant and machinery to others

**Security procedures**

- 17 site, workplace, company and operative

Developed by: ConstructionSkills Version: 2

Date approved: December 2012 Indicative review date: December 2017

Validity: Current Status: Original

Originating organisation: ConstructionSkills Original URN: COSPM23

Relevant occupations: Construction and Building Trades; Performing Arts Suite: Construction Plant or Machinery Maintenance; Live Events Management; Live Events; Plant Installations

Key words: Plant; Machinery; Hand-over; Demonstrating; Maintenance; Control; Live Events, Exhibitions

**COSVR673**

**Provide technical information, advice and guidance to users of plant or machinery**

**Overview**

This standard is about

- 1 interpreting information
- 2 adopting safe and healthy working practices
- 3 selecting materials, components, consumables and equipment
- 4 providing technical information and advice to operators of plant or machinery

**Performance criteria**

You must be able to:

- P1 interpret the given information relating to the work and resources to confirm its relevance
- P2 comply with the given, relevant legislation and official guidance to carry out your work and maintain safe and healthy work practices
- P3 select the required quantity and quality of resources for the methods of work
- P4 comply with organisational procedures to minimise the risk of damage to the work and surrounding area
- P5 comply with the given contract information to carry out the work efficiently to the required specification
- P6 complete the work within the allocated time, in accordance with the programme of work

**Knowledge and understanding**



You need to know and understand:

**Performance Criteria 1**

**Interpretation of information**

- K1 the organisational procedures developed to report and rectify inappropriate information and unsuitable resources, and how they are implemented
- K2 the types of information, their source and how they are interpreted
- K3 the organisational procedures to solve problems with the information and why it is important they are followed

**Performance Criteria 2**

**Safe work practices**

- K4 the level of understanding operatives must have of information for relevant, current legislation and official guidance and how it is applied
- K5 how emergencies should be responded to and who should respond
- K6 the organisational security procedures for tools, equipment and personal belongings
- K7 what the accident reporting procedures are and who is responsible for making the report
- K8 why, when and how health and safety control equipment should be used

**Performance Criteria 3**

**Selection of resources**

- K9 the characteristics, quality, uses, sustainability, limitations and defects associated with the resources and how defects should be rectified
- K10 how the resources should be used and how any problems associated with the resources are reported
- K11 the organisational procedures to select resources, why they have been developed and how they are used
- K12 the hazards associated with the resources and methods of work and how they are overcome

**Performance Criteria 4**

**Minimise the risk of damage**

- K13 how to protect work from damage and the purpose of protection
- K14 why disposal of waste should be carried out safely and how it is achieved

**Performance Criteria 5**

**Meet the contract specification**

- K15 how methods of work, to meet the specification, are carried out and problems reported
- K16 how maintenance of tools and equipment is carried out

**Performance Criteria 6**

**Allocated time**

- K17 what the programme is for the work to be carried out in the estimated, allocated time and why deadlines should be kept

**Additional information**

**Scope/ range related to performance criteria**

**Performance Criteria 1**

- 1 interpretation of drawings, specifications, schedules, method statements, risk assessments and manufacturers' information related to the work to be carried out

**Performance Criteria 2**

- 2 avoidance of risk by complying with the given information relating to at least five of the following
  - 2.1 methods of work
  - 2.2 safe use of health and safety control equipment
  - 2.3 safe use of access equipment
  - 2.4 safe use, storage and handling of materials
  - 2.5 safe use and storage of tools and equipment
  - 2.6 specific risks to health

**Performance Criteria 3**

- 3 selection of resources associated with own work
  - 3.1 materials and components
  - 3.2 tools and equipment
  - 3.3 consumables

**Performance Criteria 4**

- 4 protection of the work and its surrounding area from damage
- 5 minimise damage and maintain a clean work space
- 6 disposal of waste in accordance with current legislation

**Performance Criteria 5**

- 7 demonstration of work skills to interpret, analyse, explain, advise, confirm, answer, replace, refer and inform
- 8 use and maintain hand tools, portable power tools and ancillary equipment
- 9 provide technical information and advice to given working instructions for operators of plant or machinery for at least two of the following
  - 9.1 at breakdown
  - 9.2 on handover
  - 9.3 on request
  - 9.4 under terms of contract, guarantee, warranty or hire agreement
  - 9.5 on recall
  - 9.6 modification or alteration
- 10 complete and maintain records

**Performance Criteria 6**

- 11 completion of own work within the estimated, allocated time to meet the needs of other occupations and/or client

**Additional information****Scope/ range related to knowledge and understanding****Disposal of waste**

- 1 environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance

**Emergencies**

- 2 operative's response to situations in accordance with organisational authorisation and personal skills when involved with
  - 2.1 fires, spillages, injuries
  - 2.2 emergencies relating to occupational activities

**Hazards**

- 3 those identified by risk assessment, method of work, manufacturers' technical information, statutory regulations and official guidance

**Health and safety control equipment**

- 4 identified by the principles of protection for occupational use, types and purpose of each type, work situations and general work environment
  - 4.1 collective protective measures
  - 4.2 personal protective equipment (PPE)
  - 4.3 respiratory protective equipment (RPE)
  - 4.4 local exhaust ventilation (LEV)

**Information**

- 5 drawings, specifications, schedules, method statements, risk assessments, manufacturers' information and current regulations associated with the operation and use of plant and machinery

**Legislation and official guidance**

- 6 this relates to the operative's responsibilities regarding potential accidents and health hazards whilst working in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement/storage of materials and by manual handling and mechanical lifting

#### **Maintenance**

- 7 operative care of hand tools and portable power tools and ancillary equipment

#### **Methods of work**

- 8 application of knowledge for safe and healthy work practices, procedures and skills relating to the method/area of work and materials used to:
- 8.1 provide information advice and guidance to users and operators: on handover; at breakdowns; on request; under terms of contract; guarantee; warranty or hire agreement and for manufacturers' recall
  - 8.2 explain the information, advice and guidance available
  - 8.3 use situational awareness to interpret the information and advice required
  - 8.4 analyse the information available to provide answers
  - 8.5 refer to other sources of information: colleagues, multi media
  - 8.6 source and supply replacement literature and documentation
  - 8.7 inform on progress
  - 8.8 provide information, advice and guidance in a manner that maintains goodwill
  - 8.9 confirm the information, advice and guidance given is appropriate
  - 8.10 use hand tools, portable power tools and equipment
  - 8.11 work at height
  - 8.12 use access equipment
  - 8.13 complete and maintain records
- 9 team work and communication
- 10 needs of other occupations associated with the provision of technical information, advice and guidance for the use and operation of plant and machinery

#### **Problems**

- 11 those arising from information, resources and methods of work
- 11.1 own authority to rectify
  - 11.2 organisational reporting procedures

#### **Programme**

- 12 types of progress charts, timetables and estimated times
- 13 organisational procedures for reporting circumstances which will affect the work programme

#### **Protect work**

- 14 protect work against damage from general workplace activities, other occupations and adverse weather conditions

#### **Resources**

- 15 materials, components and equipment relating to types, quantity, quality, sizes and the sustainability of standard and/or specialist:
- 15.1 consumables
  - 15.2 literature, forms and documents
  - 15.3 hand and/or portable powered tools and equipment
- 16 methods of calculating quantity, length, area and wastage associated with the method/procedure to provide technical information, advice and guidance to users of plant and machinery

#### **Security procedures**

- 17 site, workplace, company and operative



Validity: Current Status: Original

Originating organisation: ConstructionSkills Original URN: COSPM24

Relevant occupations: Construction Plant or Machinery Maintenance; Live Events Management; Plant Installations

Suite: Construction Plant or Machinery Maintenance; Live Events Management; Live Events; Plant Installations

Key words: Plant; Machinery; Technical-information; Advice; Maintenance; Live Events, Exhibitions.

## APPENDIX 3 - ASSESSMENT TEMPLATE DOCUMENTS

### 3A: Sample Form

#### Assessment plan and review

Candidate name:

Employer/location:

Date:

Qualification:

Unit(s):

Elements:

Assessor:

Period of Review:

(should not normally exceed 12 weeks)

Proposed Date for next review:

**Part 1 – Activities / Tasks / Learning / Training** undertaken since last review:

**Part 2a – Progress to date** specifying units/elements/modules achieved to date (the progress recorded **must** tie in with the associated '**Summary of Achievement Record**')

**Part 2b** – Identified **barriers** to progress (please detail here any issues relating to the programme delivery, which have impacted negatively on progress e.g. attendance times, learning difficulties, suitability of training/learning materials, physical barriers to participation, health issues, attitude etc):

\*

**Part 2c** – Solutions proposed to address the above barriers:

**Part 3** – Agreed '**assessment planning**' & action required for the next review  
(proposed methods of evidence collection must be recorded & proposed assessment methods must be selected):

***N.B.*** *Methods of evidence collection may include: either hard copy records or electronic records such as audio recordings, scanned documents, photographs etc.*

Element:

Proposed Assessment Methods/Sources of Evidence:

CrossRef	RPL	OBS	Questioning	PS	WR	D	WT
----------	-----	-----	-------------	----	----	---	----

<p style="text-align: center;"><b>Key: Assessment Methods/Sources of Evidence</b></p> <p><b>CrossRef</b> = Cross Referencing    <b>RPL</b>= Recognition of Prior Learning  <b>OBS</b> = Observation                    <b>PS</b> = Personal Statement  <b>WR</b> = Work Record                    <b>D</b> = Discussion  <b>WT</b>= Witness Testimony</p>								

<b>Part 4</b> – Additional comments / issues (e.g. health & safety issues):
<b>Part 5</b> – Candidate comments/feedback/evaluation:
<b>Part 6</b> – Employer comments on progression and achievement noted in <b>Part 2a</b> :

**Part 7 – Assessor Feedback/Assessment Judgements/Decisions/Outcome**

Candidate Signature: ..... Date: .....

Assessor Signature: ..... Date: .....

Employer Signature (where present): ..... Date: .....

Employer Name and position: .....

### 3B: Sample Form

#### Assessor report

<b>Qualification:</b>	
<b>Candidate:</b>	
<b>Assessor:</b>	
<b>Date:</b>	
<b>Unit/ element:</b>	
<b>Location/ circumstance:</b>	
<b>Details of observation/ question/ answers/ discussion</b>	<b>Ref</b>
<b>Details of observation/ question/ answers/ discussion</b>	<b>Ref</b>
<b>Details of observation/ question/ answers/ discussion</b>	<b>Ref</b>
<b>Assessors comments</b> (state whether candidate is competent)	
<b>Assessor signature</b>	
<b>Candidate signature</b>	



**3C: Sample Form  
Witness testimony**

Qualification: .....

Unit: .....

Element(s): .....

Candidate Name: .....

Witness Name: .....

Witness Contact Details: .....

.....

Describe your construction and any assessment qualifications/ experience:

.....

.....

.....

Describe your relationship with the candidate:

.....

.....

Date of evidence: .....

**Testimony and comment on candidate's performance**

.....

.....

.....

.....

.....

.....

.....

Witness Signature & Date: .....

Candidate Signature & Date: .....

Assessor Signature & Date: .....

**3D: Sample Form**  
**Candidate personal statement**

**Qualification:**

**Candidate name:**

<b>Element(s)</b>	<b>Date</b>	<b>Statement / evidence</b>

Candidate's signature:

Assessor's signature:  
Date:



## APPENDIX 4 - ASSESSOR TEMPLATE DOCUMENTS

**4A: Sample Form  
Element achievement record**

<b>Candidate name:</b>											
<b>Qualification:</b>											
<b>Unit title:</b>											
<b>Element(s):</b>											
<b>Assessor:</b>											
Evidence ref:	Evidence description *	Location **	Performance criteria					Knowledge and understanding			

**\*Key: Assessment Methods/Sources of Evidence**

**CrossRef** = Cross Referencing     **RPL**= Recognition of Prior Learning     **OBS**= Observation  
**Q&A**= Questioning     **PS**= Personal Statement     **WR** = Work Record     **D**= Discussion  
**WT**= Witness Testimony

*\*\*Should refer to whether the evidence can be found in the portfolio ('PF') or elsewhere, if so state location of evidence*

**4B: Sample Form**  
**Unit progress record**

**Qualification:**

**Unit title:**

I confirm that the candidate has been assessed as competent for this unit

Assessor name	Assessor signature	Date

I confirm that I have been assessed as competent and that the evidence produced is from work that is all mine

Candidate name	Candidate signature	Date

I confirm that I have internally verified this unit and confirm that the candidate is competent (this section must be completed where the assessor is unqualified)

IV name	IV signature	Date



## APPENDIX 5 - INTERNAL VERIFIER TEMPLATE DOCUMENTS

### 5A: Sample Internal Verification Strategy

This document indicates what may be covered as part of an internal verifier's strategy. An effective internal verification strategy ensures:

- A forum for discussion of borderline cases
- Assessor networking and sharing of good practice
- Valid, reliable and consistent training and/or assessment
- Recorded assessment decisions which are appropriate, consistent, fair, transparent and equitable
- Clarity for candidates about assessment requirements
- Effective preparation and presentation for external verification
- Reduction in level of direct external verification scrutiny

To underpin the IV/ verification process a plan of internal activity should be developed indicating

- what will happen
- when it will happen
- who will be involved

New instructors/assessors must:

- a) be supplied with assessment and materials
- b) clearly understand assessment requirements and procedures

All assessors must:

- a) know the name of the person who will manage the IV process and the name of the IV
- b) know how IV/ verification will happen, when it will happen and who will be involved
- c) be informed about issues raised through previous internal and external quality assurance

#### **On Course Monitoring**

The IV should:

- a) Sample assessments to ensure that:
  - feedback to candidates is clear and constructive
  - teaching and assessment activities are standard and appropriate
  - assessment decisions are fair and consistent
  - teaching and assessment records are clear
- b) Undertake standardisation activities
- c) Ensure candidates understand assessment requirements



- d) Provide advice and support for Assessors and share good practice
- e) Identify good assessment practice
- f) Record internal verification activities and findings, list action points and report to instructors/assessors and the EV
- g) Liaise with the EV as necessary

### **End of Course Checking**

The IV should:

- a) monitor progress against previous action points
- b) ensure assessment records are complete and accurate
- c) ensure evidence of achievement is appropriate and standardised
- d) record internal verification activities and findings, list action points, and report these to assessors and the EV

### **Guidance on Sampling and Record Keeping**

#### **What do IVs/IVs sample and why?**

IVs are responsible for monitoring the quality of assessment, hence the need for them to sample assessment practices and decisions. It is not usually possible or necessary to verify every aspect of assessment at each internal verification. A properly selected representative sample should identify any issues with assessment practices and decisions.

#### **Selecting a sample**

To select a representative sample, IVs must take account of factors which may impact on the quality of assessment. These factors are used to define a sampling strategy that determines the size of the sample and enables judgements to be made.

Key factors to consider are:

- Sites of delivery
- Number and experience of Assessors
- Number of courses/assessments
- Previous IV actions/recommendations
- Assessment methods
- Special arrangements
- EV recommendations
- Borderline cases
- Anything else that you think might impact on assessment decisions

The sample should include an element of random selection by the IV. It is not necessary to sample across every aspect of the programme at each event but the plan should seek to cover everything over a period of time, e.g. 3 years.



**Which records should be kept?**

Records of internal quality assurance/ verification must be kept and made available to the EV during monitoring visits. These should demonstrate that the internal verification procedures have been carried out. IVs should record two sets of information:

1. The sample taken by the IV
2. The comments and feedback to the Assessor following the sampling exercise, showing any recommendations or action required and how this was resolved.

There is a sample form shown below that you may use or adapt to suit your own requirement.

**5B: Sample Form**  
**Internal verification - sampling assessment decisions**

**Unit/qualification:**

**Location:**

**Assessor name:**

Candidate Name	Sampling element <sup>1</sup>	Was the assessment method appropriate?	Is there sufficient evidence that outcomes have been met?	Is the evidence appropriate for the level?	Comments
<b>Comments</b>					

**Signed:** (IV) **Date:**

**Signed:** (Assessor) **Date:**

<sup>1</sup>Was this a learning outcome across candidates, or a whole unit or one method of assessment?



## 5C: Sample Form

### Internal verification – observation of assessors

Internal Verifier's Name: .....

Assessor's Name: .....

Candidate's Name: .....

Qualification Title: .....

Unit Assessed: .....

Element Assessed: .....

Date of Observation: .....

Location of Assessment: .....

<b>Prior to the assessment had the Assessor:</b>	<b>Yes</b>	<b>No</b>	<b>Comments:</b>
Developed a written Assessment Plan for the candidate			
Checked that the facilities, resources and information required for the assessment were available and ready for use			
Briefed the candidate on how the assessment would take place and what would be assessed			

<b>During the assessment did the Assessor:</b>	<b>Yes</b>	<b>No</b>	<b>Comments:</b>
Conduct the assessment unobtrusively without interfering with the candidate's performance			
Encourage the candidate to satisfy the specified Assessment Criteria			
Ask questions clearly in an encouraging tone and manner without leading the candidate			
Ensure that sufficient questions were asked and that they were justifiable and relevant to the Unit assessed			

<b>During the assessment did the Assessor (continued):</b>	<b>Yes</b>	<b>No</b>	<b>Comments:</b>
Ensure that the atmosphere created during the assessment was pleasant and conducive			
Clarify and resolve any concerns that the candidate had during the assessment			
Clearly inform the candidate of the assessment decision i.e. 'achieved' or 'requires further practice'			
<b>After the assessment did the Assessor:</b>	<b>Yes</b>	<b>No</b>	<b>Comments:</b>

Provide feedback that was clear, constructive, met the candidate's needs and was appropriate to his/her level of confidence			
Encourage the candidate to comment on the assessment decision and how he/she was assessed			
Complete the Unit assessment documentation and ensure it was fully signed and dated			

**Overall feedback to Assessor:**

**Assessor's comments on the IV's feedback:**

Assessor's Signature: .....

Date:.....

Internal Verifier's Signature: .....

Date:.....